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ABSTRACT

In the National Institute of Education's Research and Development Utilization (RDU) program, individual linking agents assisted the schools participating in RDU projects to locate or generate information that would help improve their educational practices. To assess the training and support provided these field agents by the seven RDU projects, researchers surveyed 49 linking agents, examined each project's training methods, content, and timing, and interviewed the 49 agents' direct supervisors. Linking agent training covered problem-solving, interpersonal and group dynamics, knowledge availability and use, and project administration. Training methods included group discussion, role-playing, one-on-one teaching, and lectures. The research data showed that (1) only minor differences existed among the projects in the training provided; (2) linking agents would have preferred greater variety in training methods and content and greater emphasis on skill development rather than on information acquisition; (3) RDU projects and the agents' host agencies were both important sources of support; and (4) support activities had more impact on agents than training did. The authors recommend that the RDU Program enhance its support for linking agents by helping them interact more with each other and with more resource agencies. (Author/RW)

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Linking R&D with Schools

Special Report on the Training and Support of Educational Linking Agents

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SPECIAL REPORT ON THE TRAINING AND SUPPORT OF EDUCATIONAL LINKING AGENTS

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September, 1980

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TABLE OF CONTENTS

Page

Preface..... 1

CHAPTER I INTRODUCTION... 3

Definitions of Key Concepts.....4
Training.....4
Support.....5
Educational Linking Agent.....7

Focus of this Report.....7

CHAPTER II DESCRIPTION OF RDU TRAINING AND SUPPORT.....10

Northwest Reading Consortium Project.....15
Overview.....15
Training.....16
Support.....17

Georgia Project.....17
Overview.....17
Training.....17
Support.....18

Pennsylvania School Improvement Project.....18
Overview.....18
Training.....19
Support.....19

Network Project.....20
Overview.....20
Training.....21
Support.....22

National Education Association Project.....22
Overview.....22
Training.....23
Support.....24

Florida Linkage System Project.....24
Overview.....24
Training.....25
Support.....25

Michigan Project.....26
Overview.....26
Training.....27
Support.....27

Cross Project Findings.....28

TABLE OF CONTENTS
(continued)

Page

CHAPTER III ASSESSMENT OF RDU TRAINING AND SUPPORT.....33

Framework.....33
Cross-Project Findings.....42
Assessments of Project Training and Support.....45
Northwest Reading Consortium.....45
Georgia.....45
Pennsylvania.....46
Network.....46
National Education Association.....46
Florida.....47
Michigan.....47

CHAPTER IV THE IMPACT OF LINKER TRAINING AND SUPPORT.....49

Introduction.....49
A Model for Analyzing Linker Training and Support Impacts.....49
Description of Variables.....50
Analysis.....54
Discussion.....61

CHAPTER V IMPROVING THE TRAINING AND SUPPORT OF EXTERNAL RESOURCE PEOPLE.....63

Training.....63
Support.....66
Training vs. Support.....67

REFERENCES.....69

APPENDIX A.....72
APPENDIX B.....80

LIST OF TABLES AND FIGURES

Page

Table II-1 Degree to Which Training Was Received in Four Content Areas as Perceived by Linking Agents in Each Project.....12

Table II-2 Frequency Score of Support Sought by Linkers in the Seven Projects from Various Role Partners.....14

Table III-2 Linker Assessment by Project of Training Received....34

Table III-2 Learning Principles Applied to Five Approaches to Training.....37

Table III-3 Assessment by Project for Training in Each Content Area.....39

Table III-4 Perceived Usefulness of Support Provided by Various Sources of Assistance by Project.....40

Table III-5 Assessment of Support: Summary Indicators Average Response by Project.....41

Table III-6 Rank Order of Importance and Amount Received for Various Training Content Areas.....42

Figure IV-1 A Model for Analyzing the Impact of Linker Training and Support.....51

Table IV-1 Pearson's Correlations Between Various Linker Training Variables and Job Attitudes and Behavior Variables.....55

Table IV-2 Pearson's Correlations Between Various Linker Support Variables and Job Attitude and Behavior Variables.....57

Table V-1 Linker Ratings of the Degree to Which Certain Aspects of Training Programs Should be Used to Acquire Information of Skills in an Ideal Training Program.....65

PREFACE

This report on the Training and Support of Educational Linking Agents is part of the Abt Associates Inc. study of the Research and Development Utilization (RDU) Program. An "action research" effort sponsored by the National Institute of Education (NIE), the RDU Program was initiated as an effort to close the gap between the producers and consumers of knowledge. This goal was to be met by helping schools to clarify and solve local problems in the areas of basic skills and career education through the use of innovative R&D products. A major NIE purpose in conducting the program was to learn more about the local school improvement process and to add to existing knowledge about the design, operation, and results of dissemination programs in education.

Beginning in June, 1976, the RDU Program operated through seven geographically dispersed organizations or projects which responded to a request for proposals from NIE and were awarded contracts. Four projects were under the direction of state education agencies (in Pennsylvania, Georgia, Florida, and Michigan) and three were managed by multi-state consortia (the National Education Association, based in Washington, D.C.; the Network Consortium, based in Andover, Mass.; and the Northwest Reading Consortium, based in the State Education Agency in Olympia, Washington). Some of the project structures were specifically established for the purposes of participation in the program, while others incorporated RDU activities within an already existing structure or network.

All of the projects provided technical assistance to schools or school districts during several phases of a problem solving process. Such support was provided over a substantial period of time (i.e., two years or more) through two or more linking agents--individuals who coordinated the services provided to local schools and districts. Most linking agents operated out of an intermediate service agency (i.e., a multi-district resource agency) or a state education agency, and each served a specific, limited set of local schools and districts.

The extent of services provided to local sites by a given project varied, however. In some cases, the technical assistance and information service delivered to clients was coordinated by a full-time linking agent

with a small number of client schools. In other cases, linking agents had a more limited relationship with schools in the RDU program, spending major portions of their time on activities not associated with RDU. And some linking agents were assisted in the provision of services by a variety of other agencies.

A major objective of the Abt Associates Inc. study of the RDU Program is to study the roles and behaviors of external linking agents as facilitators of improved problem-solving and utilization of information at local sites. One aspect of this investigation has been to describe and assess the types of training and support that have been provided to linking agents as part of the RDU Program. The results of this investigation are presented in this report.

CHAPTER I

INTRODUCTION

"Working intensively with this school has increased the rivalry with a neighboring school. How do I increase the likelihood of later district dissemination and adoption?"

"There is no R&D solution to the identified problem. Now what do I do?"

"The principal was appointed chairman of the district task force, against his wishes. Consequently his attitude was poor and he made efforts to subvert the project. How do I win him over?"

"The intermediate service agency took me in as a member of the family. They signed me up to work on all sorts of committees and assumed I would be the agency reading specialist for all schools in the area. However, the project director told me to work just with project schools."

"I have to continually remind the schools that I am there to help, and not to be a policeman. The schools keep looking for restrictions and penalties--wondering whose side I am on."

"I felt good about my job. I was comfortable with the ambiguity. And to see schools change and improve was very satisfying."

The above quotations come from educational linking agents (resource persons external to the school or school system) in the NIE-sponsored R&D Utilization (RDU) Program. They illustrate some of the problems linking agents face with their boundary spanning role (role conflict), some of the rewards of such a role (job satisfaction, challenge and individual growth), and some other issues such as the importance of both substantive and interpersonal skills. Many educational dissemination and school improvement programs currently involve services provided by individuals performing linking agent roles. As a response to issues related to such roles, the importance of training and support has been emphasized in the recent literature concerning these resource people (Butler and Paisley, 1978; Crandall, 1977; Hood and Cates, 1978). This report will describe and assess the types of training and support that have been provided to the RDU linking agents and will then discuss the implications for the training and support of educational linking agents in general. Finally, this report will make some recommendations about practices that may improve linker training and support in the future.

This report is aimed at a relatively narrow audience, including:

- federal decision makers who encourage dissemination and utilization and who make resource allocations concerning the training and support of educational linking agents;
- state and local educational administrators who are concerned with the training and support of existing roles that are very similar to the RDU linking agent;
- researchers and academics interested in learning more about the training and support of external resource people.

Definitions of Key Concepts

Before proceeding to address the main areas of interest in this report, three key concepts need to be defined and briefly discussed. These concepts include training, support and educational linking agent.

Training

For the purposes of this report, training is defined as an organized set of materials and experiences used for: orienting and indoctrinating the new linker; teaching (developing or modifying) the specific knowledge, skills or attitudes that the linker needs to perform the job; and providing opportunities for general education and self-development (Schein, 1965). For the most part, training usually emphasizes the acquisition of knowledge. Hood and Cates (1978) state: "Review or evaluation of actual programs of instruction for linking agents suggests that many programs probably succeed in imparting only orientation levels of competence; that is, they impact (sometimes very effectively) general awareness and understanding..." (p. 30).

However, the acquisition of skills--especially interpersonal skills--is equally important, is much more difficult and occurs much less frequently than knowledge acquisition. Mednick (1964) provides a traditional definition of skill: "precision and timing of movements that are oriented around a task or goal." For example, in learning to swim, the required leg and arm movements are within most individuals' behavioral repertoire. Learning becomes the process of integration and proper sequencing of these behavioral units so that the total skill can be performed as an integral whole without faltering and without forced conscious awareness of individual parts. In following the analogy, many methods are used to acquire the process helper, resource finder and solution giver skills (Havelock, 1973; Piele, 1975; Butler and Paisley, 1978) of linking agents. Some learn by being dumped into the pond and some learn by sequential trail-and-error practice. Others are fortunate enough to receive guided instruction.

Attitudes also play an important part, along with knowledge and skill, in influencing behavior. However, few training efforts have attitude change as a direct target (Friedlander and Brown, 1974). Usually it is hoped that attitudes will change indirectly as a result of changes in either knowledge or skill or both.

Assuming that there are various ways to present an organized set of materials and experiences, an assessment of these different ways would concern the extent to which learning occurs, and the extent to which that learning facilitates the accomplishment of desired outcomes. The little empirical evidence that does exist concerning linking agent training tends to demonstrate that what is taught (rather than what is learned) does seem to be appropriate (in other words, it has high face validity). Unfortunately, this allows few assumptions about training effectiveness. Even when learning is measured, learning does not necessarily equal performance. Fleishman (1953) long ago recognized that performance depends not only upon training but also upon the social environment in which the trainee actually must function. More recently, Argyris (1968) talks about the importance of being able to diagnose situations and develop the required cooperation in others so that acquired interpersonal competence can be performed.

Thus, a description of the types of training approaches conducted by the seven RDU projects is relatively straightforward, providing a good indicator of current linker training practices. However, an assessment of linker training is more difficult. This report will emphasize the perception of linkers concerning their training, but will not be able to examine external assessments of training impacts upon outcomes such as improved linker behavior. Linker assessments will be supplemented by an evaluation of the match between training methods and expert opionions about effective training practices.

Support

For this report, support is defined as the set of organizational relationships and processes that facilitates linker performance and leads to a favorable situation or climate for job accomplishment. One of the difficult aspects of the linking agent role is that, due to its dispersed character, it is socially isolating (Louis and Sieber, 1979; Havelock, 1969). The linking agent is employed by a centrally located organization, but is frequently located in another "host" agency that is in closer proximity to the sites

to be served. Since much of the linker's role involves field service, often to sites that are at some distance from the office, linkers may find it more difficult than their office-based peers to develop a supportive group among these potential colleagues (Milavsky, 1969).

Again, as with training, there is a paucity of empirical data about support systems. The newness of the linker role in any kind of an organized or systematic program precludes "hard and fast" conclusions. However, given the opportunity to observe and conceptualize linker support systems in a few instances (e.g., the National Diffusion Network [see Emrick 1977] and the Pilot State Dissemination Program [see Louis and Sieber 1979]) there are some emerging consistencies--especially concerning the importance of support. Two participants in the Belmont Conference on Linker Functions and Support Needs (cosponsored by USOE and NIE on Nov. 1-4, 1977) summarized the current assumptions by stating:

> "Conservation of the human resources that linkers represent is critical. Linkers are too often second class citizens in their own agencies, without friendly support, feedback, autonomy, and resources."
>
> "Maintaining an organizational support base is essential for the survival of the linker."

The seven RDU projects all made some attempts to address the need for social support among linking agents. In some cases, attempts to provide support were made through "circuit riding" of central project staff--i.e. in the Network Project. In other cases linkers were brought into the central office for staff meetings on regular occasions. As was shown in Sieber, Louis and Metzger (1972) this was a generally effective mechanism for providing support and influence to linking agents <u>if</u> meetings were structured for sharing, and if linking agents felt that central office staff members have a clear sense of what life on the firing line is like. In other RDU projects, different mechanisms for reducing linker isolation were used. These included hiring linkers who were already members of their "host" organization, (thus presumably increasing the probability that they already had a local support system) or of building in some institutional responsibility for supervising the work of the linker within the intermediate agency.

Butman and Lohman (1978), in an examination of the Northwest Reading Consortium (NRC) Project, outlined five significant support functions that

are indicative of the sources of support in many of the other projects as well. These include:

- management support (budgeting, coordination);
- knowledge base support (identification and access to validated products);
- training support;
- peer support; and
- evaluation support (including assistance with documentation and formative feedback).

Educational Linking Agent

Louis (1979) defines an educational change agent as: "an individual, group or organization whose objective is to assist clients--individuals, groups or systems--in either locating or generating information (and skills and attitudes) that will enhance the clients' functioning as an educator or educational system." This definition was the result of her review of numerous previous definitions, and represents an inclusive but meaningful delineation of the important dimensions of the role. RDU linking agents clearly fall within this definition, yet they are different from many others in this role in at least three significant ways. First, the RDU linkers were required to use the "rational problem solving model" (defined in different ways, depending upon the project) to assist clients. Second, when locating or generating information, the RDU linkers were restricted to a defined knowledge base of R&D products--usually in a specific problem area such as reading, career education or inservice (again, this differed by project).

Finally, the RDU linkers were part of a major documentation effort, one which encouraged participants to increase their awareness of the knowledge utilization process. While these differences make the RDU linker a special brand of linking agent, the training and support issues remain the same. Indeed, their need for training and support is probably greater given the additional complexities of their role.

Focus of this Report

Hood and Cates (1978) summarize past thinking about linker training and support in their review of the literature as follows: "Up to now, most conceptions about linking agent roles, functions and training and

support needs have been based on a priori assumptions" (p. 30). In contrast, this report will begin with and emphasize actual experience as reported by 50 linking agents in the RDU Program, and will minimize the use of previous conceptualizations except as they are useful in understanding what happened.

From September, 1976 through June, 1979, the RDU program operated through seven projects or organizations around the country. It began with 95 linking agents, ranging from two full-time linkers in the Pennsylvania School Improvement Program (PSIP) to 46 part-time linkers in the Michigan Project (see Louis et al., 1979 for a description of this program and related studies). This report is based upon both qualitative and quantitative data obtained from project staff. Qualitative data come from interviews and a conference with 14 linkers (2 from each project), and from interviews with the seven project directors and a number of linker supervisors (29) in the host agencies which were the linkers' "home base." Host agencies were usually intermediate service units which, while not an official part of the project staff, housed the linking agents. Quantitative data come from three surveys of 50 linking agents. These respondents represent most of the linkers from five projects (the Northwest Reading Consortium--NRC, the Network Consortium, Pennsylvania, Florida and Georgia) and a sample of linkers from two other projects (NEA and Michigan).

Although much of the data collection effort emphasized other issues, there were questions in both the qualitative and quantitative approaches that addressed linker training and support. These questions (and their subsequent analysis) were guided by a number of issues of importance in the training and support of linking agents. Each of the remaining chapters, along with the issues on which that chapter focuses, is briefly described below.

Chapter II describes the training and support activities that occurred in the seven RDU projects. There are a number of important decisions to be made in the design and conduct of linking agent training and support. For example, what amount of training and support is appropriate and what is a timely manner of providing such efforts? What should be the focus or content of training and support acitivities? What skills and knowledge

should be provided by linker training? And in which types of roles will linkers require support and assistance? Finally, who should be the providers of linker support and training? Given the strong need for local acceptance of linkers, yet the strong programmatic emphasis provided by federal funding, where should the locus of control be for various training and support activities -- at the national, regional, project or local level?

With these important design decisions in mind, Chapter II provides seven "mini" case studies of the training and support systems that did occur in the RDU program, and presents some cross-project comparisons along the decision points listed above. These "mini" case studies reveal a surprising lack of variation in training and support efforts across the seven projects, despite the lack of guidelines from federal program sponsors.

Chapter III provides an assessment, primarily by linkers themselves, of the training and support activities that they received. In order for improvements to be made in these activities in the future, it is important to learn from what has gone on before. How useful were the training and support activities that were provided? How timely were the activities provided? And how appropriate was the amount that was provided? This chapter finds that there is more variation in the perceived usefulness of support structures across projects than in the perceived usefulness of training activities. This variation occurs largely in perceptions of the usefulness of those sources of support provided by sources outside of the project director's office, such as consultants, other linkers and the host organization staff.

Chapter IV discusses the relationship among training and support variables and other variables such as role conflict, linker satisfaction, linker behavior and perceived impact of linker behavior on local school outcomes. Do training and support relate differently to these important variables? Are these relationships modified by individual or job characteristics? Given a limited amount of resources, how should they be spent (emphasizing training or support) to obtain the most impact? And in what areas of individual and organizational outcomes can impact be expected? The analysis reveals that the relationships between support and training variables and linker attitudes and behaviors are quite weak, except for certain subgroups of linkers -- those who are younger and less experienced.

Chapter V provides suggestions for improving training and support for linking agents in the future, through a discussion of the implications of the results from the RDU program's experiences.

CHAPTER II

DESCRIPTION OF RDU TRAINING AND SUPPORT

Each of the seven RDU projects relied in varying degrees upon externally based linking agents to facilitate improved problem solving and use of information at local sites. Typically the linking agents performed a variety of roles and activities, including facilitating the decision making process by clarifying goals and providing leadership, facilitating the transfer of information, mediating among autonomous and sometimes competing organizations and individuals whose resources and services required coordination, and generally supporting the operations of the project at the local level.

Generally, the linking agents' activities were expected to draw upon three kinds of skills:

- process skills, designed to help local school staff to better engage in the problem solving process, including assessing needs, assessing the match between innovations and problems, organizing clients into work groups, resolving conflict, and assisting implementation and evaluation;
- content skills, including advice about the particular innovation or problem area in question; and
- general support skills, involving general human relations sensitivity, the ability to provide extra time, energy and managerial support to a local school's change activity and the engagement of such roles as observer, documenter, resource person, counselor and coordinator.

Each project included training and support mechanisms for the linking agents as part of its overall design and operation. Before describing and assessing the training and support that was delivered, it is important to note that there was a fair amount of variability both between and within the seven projects on several factors affecting the linking agent role (see Louis et al., 1979). Among these factors are:

- the scope of linker involvement in the RDU project;
- the number of sites served by each linker;
- the degree to which other individuals or organizations were involved in providing assistance to the local school sites as part of the RDU project;
- the degree to which the linker was a member of the host organization prior to the RDU program;

- the type of host organization in which the linker was located (school district, intermediate service agency, state agency);
- the degree to which the linking agent functioned in a similar role prior to the RDU project;
- the degree to which the linker previously interacted with the local RDU sites as part of his/her other role(s); and
- the degree to which the linker's host organization had a previous association with the project organization headquarters.

Despite these differences among the projects, each project provided training and support to linking agents at least to some extent. Training emphasized four content areas, including information or skill related to: the problem solving process, interpersonal or group dynamics; the use and availability of the knowledge base (the pool of innovative programs); and the administration of the RDU project. Support emphasized assistance in two main areas of linker responsibility: as a process helper (assessing needs, organizing local action teams, resolving conflict, and training in group functioning and the problem solving process); and as a resource finder and solution giver (conducting information searches, identifying and obtaining appropriate R&D products and arranging for consultants and technical assistance).

Although it is difficult to distinguish among different types of occasions which included opportunities for training, (project meetings of an administrative nature, consultations between the linkers and various technical assistance agencies or consultants, and formal training sessions organized by the project staff), some common indicators do exist for discussing the training received by RDU linking agents. A survey question asked linkers to rate the extent to which training was received in the four different content areas noted above. The average for each content area ranged from 3.0 to 3.6 on a five point scale and did not differ significantly among projects (see Table II-1). However, it is interesting to note that information about project administration was received the most, and information about the knowledge base was received the least in most of the seven projects.

The number of actual training days received, however, varied more widely across the seven projects and can be divided into three categories:

Table II-1

Degree to Which Training was Received in Four Content Areas as Perceived by Linking Agents in Each Project

Name of Project	Content Area of Training: Information or Skills Related to:				TOTAL AVERAGE
	Problem Solving Process	Interpersonal or Group Dynamics	Use and Availability of Knowledge	Project Administration	
Pennsylvania	4.0*	3.0	3.0	4.5	3.6
Michigan	3.7	3.2	3.0	4.1	3.5
NEA	3.6	3.1	2.9	3.8	3.4
Georgia	3.8	4.4	2.4	2.7	3.3
Florida	3.3	3.0	3.3	3.1	3.2
NRC	2.8	3.2	3.0	3.8	3.2
Network	3.0	2.5	3.2	3.2	3.0
TOTAL AVERAGE	3.5	3.2	3.0	3.6	3.3

*Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

high (Northwest Reading Consortium, Network/Consortium and Pennsylvania), medium (Georgia and Florida) and low (NEA and Michigan). These categories correlate directly with the percentage of time linkers spent on the RDU project. As might be expected, the greater the level of involvement of linkers in this project, the greater the number of days of training received.

Although formal training was generally organized or provided by the central project staff in each of the seven RDU projects, support mechanisms for linking agents, both formal and informal, tended to emanate from either the central project or the linker's host organization. Linkers particularly sought support and assistance within their host organization for their role as process helpers. In general, when linkers were already actively employed members of their host organizations prior to their involvement in the RDU project, their host organization continued to be their primary source of informal support (see Table II-2).

The remainder of this chapter describes the training and support provided by each of the seven RDU projects. For each project, this description is divided into three parts, and includes:

1. Overview
   - the guiding assumptions of the project regarding linking agents;
   - unique aspects of the project which might influence the resultant training and support activities; and
   - the approach of the project staff towards linker turnover.

2. Training
   - the frequency and amount of training;
   - the content area (information and skill targets), such as information about 1) the problem solving process, 2) interpersonal or group dynamics, 3) use and availability of the knowledge base, and 4) project administration;
   - the setting, including conference, small group, one-on-one, or informal "get together";
   - the techniques, including lectures, group discussions, role playing or written materials; and
   - the provider of the training, including the extent to which outside consultants were used.

Table II-2

Frequency Score of Support Sought by Linkers in the Seven Projects from Various Role Partners

Project	Area of Assistance	Central Project Staff		Host Agency		Other Linkers		Outside Consultants	
		Avg.	S.D.	Avg.	S.D.	Avg.	S.D.	Avg.	S.D.
Northwest Reading Consortium	Process Helper	9.2*	2.9	5.0	4.2	13.0	5.7	10.0	5.0
	Resource Finder	4.8*	3.3	2.8	1.7	6.5	3.7	10.2	3.3
Georgia	Process Helper	7.0	3.1	14.0	3.5	9.5	4.2	7.7	7.2
	Resource Finder	5.4	6.2	8.5	3.7	5.2	1.7	5.8	4.6
Pennsylvania	Process Helper	9.0	2.8	7.5	7.8	0.5	0.7	3.5	0.7
	Resource Finder	4.0	5.7	6.4	3.7	0.0	0.0	0.0	0.0
Network Consortium	Process Helper	11.7	2.1	12.8	2.7	12.0	3.5	8.0	7.2
	Resource Finder	11.5	4.4	7.6	7.2	6.0	7.9	8.7	5.5
NEA	Process Helper	11.0	4.7	10.6	4.3	5.1	5.2	5.7	5.1
	Resource Finder	7.9	4.0	6.4	4.5	3.0	4.6	2.8	2.7
Florida	Process Helper	12.0	4.9	11.8	5.2	8.9	6.6	9.5	5.3
	Resource Finder	10.5	3.5	9.7	3.3	6.2	4.2	7.8	3.7
Michigan	Process Helper	8.0	5.4	10.7	6.2	6.1	8.2	4.0	4.5
	Resource Finder	8.8	5.3	7.6	3.6	3.2	5.9	2.7	3.3
Total	Process Helper	10.0	4.4	10.7	5.1	7.7	6.4	6.9	5.4
	Resource Finder	8.0	4.8	7.2	4.3	4.4	4.6	5.3	4.5

* These entries represent the sum of the scores on the facets of the process helper and resource finder roles and indicate how frequently the linkers sought advice from each source. Range of possible scores = 0-21 (the higher the score, the more frequent advice was sought).

3. Support

- the assistance or advice linkers received in their roles as "process helpers" and "resource finders";
- the extent of role formalization;
- the level of interaction with various others; and
- the level of feedback and influence of others on the linker.

These individual project descriptions capture the flavor of seven different approaches to training and supporting educational linking agents. Oftentimes, the potential for understanding what actuallly occurred is lost if just the numbers in tables and figures are presented. However, some summary integrative discussion is important, and this follows the project descriptions.

Description of RDU Training and Support

Northwest Reading Consortium Project

Overview. The Northwest Reading Consortium (NRC) grew out of the Right to Read Program in the states of Washington, Oregon, Idaho and Alaska. The project office was located in the Washington State Department of Education and each of the four linking agents were located in an intermediate service agency in their respective states. The four linking agents were newly hired by their host agencies to work 100% of their time specifically on the RDU program. Thus, there were many ingredients in the situational arrangements surrounding these linkers that had the potential for ambiguity and conflict concerning such issues as training and support.

One of the unique aspects about this project was its special relationship with the Northwest Regional Education Labs (NWREL). The NWREL helped to write the project proposal and initially had a subcontracting role for the identification and dissemination of the knowledge base. Concurrently with this subcontracting role to NRC, NWREL also had funding directly from NIE to be a national resource to RDU and RDX clients in the area of linking agent training. While NWREL did play a minor role in the training of linking agents in many of the other RDU projects, their role with respect to the NRC evolved into a major effort. It is interesting to note that the project director found it uncomfortable working with a resource that was not directly accountable to the project, (at first NWREL received funding from NIE, not NRC), so eventually the subcontract with NWREL was rewritten

to include both a training and support responsibility as well as the original knowledge base responsibility.

The four linking agents were perceived as key ingredients to the success of the project's activities. However, an awareness of the importance of linker training and support was not present at the beginning of the project. The one instance of turnover that existed among the NRC linkers occurred during the early part of the project, and there was no formal or informal training of the new linker when she was hired. However, this oversight probably would not have occurred at a later time in the project's history. The perception of the importance of linker training had resulted in substantial effort by project's end. The perceived importance of support was slower in evolving and was just beginning to be conceptualized and acted upon when the project terminated.

Training. Orientation for the linkers occurred frequently by phone and letter during the first few months of the project. The first formal training was conducted by NWREL in December of 1976, and the last formal training occurred in January of 1978. In total, the linkers received 17 days of training divided among six different sessions. From January of 1978 until project completion, training took the form of technical assistance from NWREL as requested by individual linkers.

Linkers reported that training was based on a wide mix of techniques, including lectures, group discussions and role playing. The small conference setting was most frequently used. Linkers also reported substantial one-on-one interaction. Of the four content areas of training, information about project administration was reported to be received most, and information about the problem solving process least.

The emphasis of the NWREL was to develop a "tailored training program" (see Butman and Lohman, 1978) for the NRC linkers. As with the adoption of any innovation, the use of "canned" training programs off the shelf has potential problems and shortcomings. Tailoring a training program implies identifying and adapting existing training materials to appropriately meet client needs and training design specifications. Thus, even though the resultant training design developed by the NWREL in conjunction with NRC project staff specified relatively structured and formal events, the

actual activities that were conducted during each event were the result of some diagnosis and continuing formative evaluation by NWREL.

Support. The linkers working on this project were moderately integrated into their host organizations. The host supervisors describe the relationship between the linker and the host agency supervisor as informal but still a superior-subordinate relationship with regular meetings for information sharing and problem solving. Linkers report that project staff influenced them more than host agency supervisors, probably because the linkers were hired solely for the RDU project. In fact, they reported the least amount of influence from host supervisors of all seven projects.

Georgia Project

Overview. The Georgia Project, located in the State Department of Education, worked through three Cooperative Education Service Agencies to link R&D products with schools. These intermediate agencies designated a total of seven of their employees to be part-time RDU linking agents. Even though these linkers spent an average of 67% of their time on the Georgia RDU project (for which their host agencies were reimbursed), they maintained a strong loyalty to their respective agencies.

The one relatively unique aspect about the Georgia Project was that the three host agencies had been doing work with local school districts that was very similar to that which RDU sponsored. Thus, many of the designated linking agents were experienced with their role for some period of time prior to the Georgia Project. There was substantial turnover of the individuals designated as linkers. This seemed to be typical for these agencies and thus was treated as a given by the project staff.

Training. Formal two to three day training sessions were held on four occasions to impart information about needs assessment, planning, intervention and implementation. These sessions were based on the materials developed by NWREL. In addition to these ten days of training, some training also took place in quarterly meetings between linkers and the project staff. The training was under the direction of the project staff, but was conducted by the NWREL under a small subcontract. Also, an individual from the NWREL served as a consultant for three days to the project as a follow-up to the intensive sessions.

Information on interpersonal and group dynamics was reported to be the most emphasized in the training that was received; and information about the use and availability of the knowledge base was the least emphasized. The conference setting was most used, along with some small group and one-on-one sessions with the trainer. Written materials were also heavily relied upon, along with some use of role playing and group discussions.

Support. The Georgia linkers were highly integrated into their host organizations, most having worked there prior to their participation in the RDU program. Linkers sought advice and assistance from these host organizations and reported being most influenced by their host organization supervisors. The main support from the project staff was provided during quarterly project meetings for information sharing and problem solving. In addition, information by mail was very frequently transmitted by the project staff. On rare occasions, the project staff would interact with local sites on behalf of a linker, thereby significantly increasing the linkers influence ("clout") with that site. While not as high as the host organization influence, the linkers also perceived the project staff as influential and a resource in their process helper role.

The linking agents have written job descriptions, but they were created by the host agency, not the project. This is another example of the integration of linkers with their host agencies. Very little feedback was provided to linkers by either the project or the host agency.

Pennsylvania School Improvement Project

Overview. The Pennsylvania School Improvement Project was located in the State Department of Education. The project worked through two linking agents, each hired and supervised by an intermediate service unit, working full-time for the project. The project staff emphasized the importance of the linking role; indeed, the linking agent was the focal point for all resources and interaction between the project and local sites.

There were two relatively unique aspects about this project that have obvious relevance to linker training and support. First, this project had the smallest number of linking agents, greatly simplifying the training and support tasks. Second, this project had strong linkages with three resource organizations that were directly accessible to the linkers, and through the linkers, to the sites. These organizations included the Learning Research

and Development Center (LRDC), Research for Better Schools (RBS) and Research and Information Services for Education (RISE). These three organizations provided direct support to the linkers and, thereby, to the schools.

The project staff were very involved in monitoring the performances of each linker. In one of the intermediate units, the project staff suggested the need to replace a poor performer and subsequently helped to select a new linker for the vacancy. This involvement was in contrast to the initial selection of the linkers in which the project was minimally involved.

Training. The amount of training received by the two linking agents was substantial, more than any of the other six projects. Over the life of the project, training focusing on the linkers, either individually or together, occurred on over 60 different occasions. During the first year of the project, there was no formal training. Rather, the linkers worked closely with members of the School Assistance Team, taking an apprenticeship role and learning by doing. Also, the project staff made numerous visits to the sites to conduct meetings, providing a model to the linkers of how various steps in the problem solving process should be accomplished. Formal training sessions did occur during the second year of the project for a total of about ten days. Outside resources such as the Network were brought in to help with these sessions. In addition to the in-person training, an extensive training notebook was compiled for linker reference.

The content of the training emphasized information about project administration and information about the problem solving process. Information concerning group dynamics and the knowledge base was less frequently provided. Some conferences were held, but the major setting for training was one-on-one with a trainer (or project staff). Discussion was the approach most relied upon, along with written materials (notebook). Project staff were the usual providers of training, along with consultants--especially those connected with the three resource organizations.

Support. The host supervisors described a moderate amount of integration of the linkers with other host organizational members. Supervisors described their own relationship with linkers as informal but still supervisory--with regular meetings for information sharing. The linkers reported

a high degree of influence from the project staff and a moderate degree of influence from the host supervisor.

Linkers relied most heavily on the project staff for assistance with their process helper role, and most heavily on the host agency for assistance with their role as a resource finder. There was very little influence of linkers on each other and very little communication between them. Asking for assistance from one linker to another was almost non-existent. The linkers do report a relatively high amount of communication with project staff, host organization staff and outside consultants. The use of three external research agencies as support groups for the linker was unique among the projects. In fact, these agencies formed the School Assistance Team and took a relatively directive role in the project during the first year, such that the linkers and schools missed them when they took a lesser role the second year.

While no formal job description existed for linking agents at the beginning of the project, both linkers have written their own job descriptions since.

Network Project

Overview. The Network Consortium Project was located at the Network in Massachusetts. The project contained six linking agents, housed in six different states in different types of host agencies ranging from a school district in Washington to the Network itself. The linkers were hired by their respective agencies and devoted between 80% and 100% of their time to the project. The project's strategy relied heavily on the linking agent role, minimizing the involvement of any other technical assistance agencies in this problem solving process.

Two unique aspects of this project concerned a special emphasis upon providing support to linking agents. First, linkers were supported for 80% of their time by project funds. The other 20% was to go to their agency supervisor. This would hopefully encourage the agency supervisor to support the linker through interaction and accessibility, and encourage the agency to integrate the linker by providing the remaining 20% of financial support required. This supervisor arrangement was unique among the projects, even though it only worked as planned in two of the six situations. (In two cases, the linkers only worked 80% of the time, and in two

cases the supervisors didn't accept their 20% in order that the linkers could be reimbursed for 100% of their time.) Second, there was a strong emphasis on the part of the project staff towards linker support and training. For example, a special staff position was created whose sole responsibility was to provide linker support.

Turnover occurred in two of the six linker positions. This was especially frustrating to the project staff because of their lack of involvement in the replacement of these two linkers. The project would have preferred a heavy emphasis on the selection of linkers (thus reducing the emphasis on training). Since the project was not able to influence the initial selection or the replacement of those linkers which left, this increased the importance of training and support in the view of the project staff.

Training. The project began with a week-long orientation meeting for all linkers. This meeting primarily emphasized project administration. The project continued with two or three day meetings with all linkers (and usually their supervisors as well) every six months. While these meetings emphasized planning, coordination and documentation issues, they also served a training function. These meetings at first approached training by designing formal sessions for the acquisition of specific pre-determined skills that should be useful for linking agents. The linking agents resisted this approach, feeling they were already skilled professionals. For the second year, the orientation was changed to role clarification and emphasized informal group discussion. In total, some 20 days were spent in these semi-annual meetings.

In addition to these project meetings, the project staff person responsible for linking agent support and training made periodic "circuit rides," spending a week with each linker in the field. These visits were meant to provide both training and support and were supplemented by weekly phone contact during the remainder of the time. Also, a "tool kit" of written resources was compiled and distributed to linking agents. The kit emphasized the role clarification theme, filing resources under various job activities--thus becoming a self-teaching job aid for linkers. While most training activities were conducted by the project staff, outside consultants (such as Gene Hall from the University of Texas) were also occasionally used.

In addition, there was an attempt to have linkers experienced on other projects in the Network teaching the RDU Network linkers. While innovative, this was also resisted by the RDU linkers.

Of the four content areas of training, each were perceived to be received to some extent. The least emphasized content area concerned information about group dynamics.

Support. The host supervisors for the six Network linking agents described a wide variety of levels of integration between linkers and other host agency members, ranging from none for some linkers to a great deal for others. Host supervisors also characterized the interaction with their linker as ranging from formal to informal and collegial. For the most part, the interaction that did occur took the form of information sharing. Linkers reported being influenced most by their host supervisors, followed by project staff and other linkers.

The project at first assumed that support would occur through a system of informal, interpersonal communication. However, the distances were too great. Thus, the project staff member in charge of linker support and training actively initiated an informal telephone network, circuit rides around the county to visit each linker, and conferences every six months.

National Education Association Project (NEA)

Overview. The RDU project associated with the National Education Association had a number of unique characteristics which influenced the resultant training and support activities. The project office was experienced in interacting directly with local teachers. The project formed linking agent pairs (known as facilitators) composed of a State Education Association and a State Department of Education representative. NEA was the only RDU project in which linkers were housed in state level organizations. These representatives spent only a small percentage of their time on the RDU project (about 12%). This project placed a great emphasis on the identification and distribution of a knowledge base composed of in-service education materials.

The project attitude towards linking was very broad in scope and very minimal in intensity and included central project information specialists that responded to a toll-free telephone number used by local schools to request in-service materials, the state facilitators and the local school

inservice committees all as part of the linkage function. NEA wanted to work with people who were already available in the state and local educational systems, rather than add new people. Thus the facilitators were already a part of their respective organizations and simply assumed an additional role for the duration of the project. When turnover occurred, the state organization was responsible for identifying a new individual to assume the facilitator role, and to orient and train that individual with respect to RDU. In summary, the project staff felt a certain lack of dependency upon these facilitators, who played a minor role in the dissemination and utilization process. This greatly influenced the training and support activities that were provided.

Training. The NEA project was organized into three phases, with new facilitators and local sites added in the second phase, and only a few sites selected to continue in the third phase. There were two 2 1/2 day sessions for the Phase I facilitators (first year of the project) and two 2 1/2 day sessions for the Phase II facilitators (second year of the project). The Phase III facilitators (third year of the project) were a sub-set of the Phase II group and received an additional 2 1/2 days of training. Thus, the Phase I facilitators received five days of training over one year, and Phase II and III facilitators received 7 1/2 days of training over two years of involvement in the project. For these facilitators (who were to spend about 6 1/2 days of their time per site per year for an average of four sites), the training was perceived as relatively substantial.

The training emphasized general orientation to the project and information sharing about procedures in a formal conference setting using lectures and some group discussion. A "simulation" experience was used for a morning of one of the sessions. Of the four content categories for training, the facilitators perceived that information about project administration was received most and information about the knowledge base was received least.

Initially, the Educational Products Information Exchange (EPIE) was contracted for the training of facilitators, but this arrangement was stopped after the first training session.* The Northwest Regional Education Lab (NWREL) also helped in the conceptualization of the training design (two days in 1976 and two days in 1978), and two NWREL people served

*The Far West Lab was also under contract to provide one set of training experiences, but this too was cancelled, prior to implementation, by mutual agreement.

as co-trainers for the Phase III training. Finally, an individual from the Educational Improvement Center served as a consultant for a second training session of the Phase I facilitators. Thus, outside consultants/contractors took major responsibility for the direction and conduct of the Phase I training sessions. The project staff designed and conducted the training for the Phase II and III facilitators, with some outside input from NWREL.*

Support. The NEA facilitators were well integrated into their respective host organizations. The RDU project simply represented an additional role for already actively employed members of the State Department of Education and the State Education Association. The host agency supervisors reported an informal or collegial relationship with the people designated as linkers and described regular meetings for information sharing. In their role as process helpers, the linkers reported seeking advice and assistance from people in their host agency and the project office with equal frequency. As resource finders, linkers relied somewhat more heavily upon the project staff. Very little assistance was sought from other linking agents or from outside consultants.

Florida Linkage System Project

Overview. The Florida Linkage System, located in the State Department of Education, worked through Teacher Education Centers (TEC) to help local sites become good decision-makers concerning problem solving and knowledge utilization. The linking agents were selected, hired and housed in a TEC, and thus brought a strong staff development set of expectations to their interaction with schools. A guiding assumption of this project was the recognition of the importance of an interpersonal approach to helping schools. The provision of information is not enough. Thus, even though the linkers usually brought a substantive background to the job, the project emphasized the relevance of appropriate personality characteristics and process skills.

There were two relatively unique aspects of this project that influenced the training and support efforts that occurred. First, the involvement of universities (in concept, if not yet in practice) and the redefinition of university professors was special to this project. State funds are available to allow professors to be resources to local schools. Thus, the Florida linkers were testing a model that could later be implemented

*Much effort was also spent by the project staff in the cumulative development of training materials, recently issued in published form by NEA.

by university professors playing a new role (process expert rather than substantive expert). Second, the project emphasized the importance of both an external linking agent and an internal change agent team made up of two teachers and an administrator. Thus, both the permanence and the importance of the external role was ambiguous, especially since the target was local staff improvement and the linker's role was to be responsive to the internal change teams.

There was substantial turnover of linkers (30%) and the project approached this with acceptance ("turnover is to be expected in this type of role").

Training. There was no training for linking agents at the beginning of the project. In January of 1977, there was a five-day session for all linkers and the local site teams. Following this intensive session, training occurred periodically in conjunction with the project's bi-monthly meetings of linkers. Modularized training materials were typically used in these meetings, for 1 1/2 hour training sessions.

While the initial sub-contract for training had gone to Florida State University, this was changed to the University of Florida at Gainesville under the direction of Bill Drummond. Drummond and his associates are well known in the state for developing training materials. This subcontract existed for the remainder of the first year at a moderate level, but was reduced substantially for the remainder of the project. During the first year the intensive training occurred as well as visits by Drummond to linkers and sites. Following the first year, some telephone contact occurred along with the periodic training modules at linker meetings (see Drummond, 1978).

Thus the training, while minimal in amount, used a wide variety of settings, ranging from conferences and small groups during the intensive sessions to one-on-one and informal get togethers during the visiting and telephoning activities. The four content areas of training were all perceived to be received to some extent with no area being especially emphasized or slighted. The basis of the training was the material and training model developed by NWREL.

Support. Host supervisors of the Florida linking agents reported that their linkers were very integrated with the other members of the respective

agencies. An informal but supervisory relationship was perceived by most host supervisors, with most meetings emphasizing information sharing and problem solving. Linkers reported a moderate amount of influence on their time and activities from both the project staff and the host supervisor. The host supervisor was the biggest source of assistance concerning the linkers in their process helper role; the project staff and the host agency provided support concerning the resource finder role. Support was also evident at a moderate level from other linkers in the project and from outside consultants.

The project staff relied heavily on the telephone for the support of linking agents, along with monthly meetings. Considerable job ambiguity and conflict was perceived by linkers during the initial 18 months of the project, perhaps due to the lack of a job description, and limited state and teacher center experience with the linking role in any form.

Michigan Project

Overview. The Michigan RDU Project was located in the office of Career Education in the State Department of Education. The Career Education Planning District (county) coordinators were asked to take on the linking role, in addition to their normal responsibilities, for a small percentage of their time. The linker's role was to assist the local site teams in carrying out a planning process in order to adopt an R&D outcome in career education. Just as with NEA, Michigan wanted to work within existing structure to encourage institutionalization, rather than create new ones. Consequently, the project placed little emphasis on the linking role, provided no financial support for the linker role and had little influence over how the linkers spent their time. Linkers were to be responsive to site teams, assisting when called upon.

There were two unique aspects of the Michigan project that deserve mention due to their potential impact upon training and support activities. First, the large number of linkers (46) was substantially different from the other six projects. Even though the project was confined within the boundaries of one state, the coordination and resources required to interact with 46 linkers were significant. Second, the primary responsibility of these linkers had previously been to the vocational education program, with little experience in career education. Thus, for many linkers commitment to the Michigan RDU project came very slowly.

Very little turnover occurred among the linkers, and when it did, it was handled by the Career Education Planning District in the normal way--with no attention paid to the RDU project.

Training. During the first six months of the project, some orientation by mail occurred concerning site nomination procedures and budget information. In January of 1977, a one-day orientation meeting was conducted for the linkers by the project office staff. This meeting included one-half day devoted to a simulation game about innovation in schools. A three-day training session was conducted by NWREL in October of 1977 for linkers entitled "Preparing educational change agents." Finally, a day was devoted to discussing technical assistance opportunities in January of 1978, conducted jointly by the project office, High Scope and the Wayne County Intermediate Service District. Three one-day workshops were also provided to site teams concerning the stages in the problem solving process. These were repeated around the state so that schools could more easily attend. The linkers were invited to attend the workshops along with their sites. In summary, linkers could have received a maximum of eight days of training over the life of the project. The average amount of orientation and training received was closer to four or five days due to sporadic attendance.

Wayne County Intermediate Service District did have a subcontract for training; however, most of their efforts were directed at the local site teams. The major training activity for linkers was the three day intensive session conducted by NWREL.

Of the four content areas of training, information on project administration was reported to be received most and information about the knowledge base least. Conferences were the primary setting for the training, with little use of small groups, one-on-one or informal get-togethers. Some lecturing and some role playing occurred, but the primary training approach was reported by linkers to be the use of written materials.

Support. The Michigan linkers had been a part of their host organizations prior to the RDU project, thus they typically were well integrated. The relationship with their host agency supervisor was relatively formal in nature, with regularly scheduled meetings for information sharing taking place. The linkers reported the greatest influence on them coming from their host supervisors. The amount of influence perceived by

linkers from the project staff was the lowest of any of the seven projects. The host agency provided assistance and advice concerning the linker's role of being a process helper more than any other potential source of support. The project staff was most heavily relied upon for assistance concerning finding and obtaining resources for the local sites.

There was a low level of communication between the linking agents and others in the project. Occasionally, a written memo was circulated by the project office. When formal training sessions were conducted, many linkers simply didn't attend. Thus, the support activities perceived by linkers were minimal.

Cross-Project Findings

Although the previous descriptions can be seen as seven distinctive approaches to linking agent training and support, there are certain common features and issues of interest that emerge from them. When looking across the four content areas of training that were provided, there was a mix of settings used, techniques or materials employed, and types of individuals providing the training in each project.* In all projects, conferences or workshops were the most frequently mentioned setting for all content areas of training. Informal "get togethers" occurred least frequently as a setting for learning, experienced by an average of 24% of the linkers. Approximately 50% of the linkers received one-on-one training in the areas of use and availability of the knowledge base and project administration, but much less so in other content areas. Overall, one-on-one training occurred least in the NEA and Michigan projects, which is not surprising, given that these projects had the largest number of linkers in the RDU program.

The main techniques used for training were the use of group discussions and written guidelines or handbooks. The latter were cited in every project for all content areas with the exception of information about group or interpersonal dynamics. Although role playing was less frequently used, it was mentioned in every project as a technique used in learning about interpersonal and group dynamics and about the problem solving process.

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*See tables A-1 through A-7 in the Appendix for summaries of the amount, setting, techniques and provider for each content area of training for each project.

The provider of training was most frequently a project staff member. Outside consultants were also used, although to a lesser degree than project staff, especially to provide training in the areas of problem solving and interpersonal and group dynamics. A common thread through many of the project's training efforts was the involvement of the Northwest Regional Education Lab (NWREL). While most heavily involved with the Northwest Reading Consortium, NWREL staff members conducted some type of training session for most of the projects. The materials developed by NWREL are widely known and have been received by most of the RDU linkers (often prior to their becoming RDU linkers as well as after, a repetition of questionable worth--see Chapter III). These materials are based upon the materials and experiential learning model developed by the National Training Laboratories and are composed of a series of exercises and theory presentations emphasizing effective interpersonal and group processes.*

With regard to the training received, there seem to be some differences of opinion on the part of linkers as to the form of the training that took place. For example, the survey responses indicate that in each project, linkers did not fully agree on the setting, techniques and provider of the training (see Tables A-1 through A-7 in the Appendix). These mixed perceptions were relatively few in four of the projects (Georgia, NEA, Network and NRC), but occurred more frequently in three projects (Florida, Pennsylvania and Michigan). Much of this difference in perceptions can be explained by turnover in linkers or non-attendance at training sessions.

An attempt to group linkers by the amount and type of training they received used a series of dichotomous variables (received/ not received) indicating training received in various content areas using various methods. The similarity of any two linkers was measured by the number of items that both marked "received." A matrix of such measures relating all pairs of linkers was subjected to a cluster analysis to identify any patterns or categories of linker training. One large cluster of linkers emerged from this analysis along with two very small ones. Subsequent comparisons among these three clusters on the original variables showed no substantial differences. This lack of difference combined with the disproportionate size of the first group suggests that there were no major identifiable variations in training among linkers by project, or by training typology, but rather that the

*In addition to this substantive foundation, there was also a financial arrangement sponsored by NIE (RDU projects received NWREL services at half price) which encouraged NWREL involvement.

training received by RDU linkers was, on the whole, similar in nature. This lack of variance has implications for the analyses looking at the effects of training and support which are discussed in Chapter IV.

Although project staff members were seen as the most salient providers of training, with regard to support, RDU linkers were just as likely to seek and receive assistance from staff within their host organizations, particularly regarding their roles as process helpers. This occurred most frequently in projects in which linkers were members of their host organizations prior to their involvement in the RDU project (as in Georgia, NEA and Michigan) or where special structures were established to provide for regular supervision within the host organization (as in the Network).

Data from interviews suggest that project directors found it somewhat difficult to maintain a clear differentiation between training and support (although typically training can be classified as the more formal of the two). However, linking agents were able to distinguish between training and support in their responses to the survey questions. In many projects, linkers perceived that they had a high amount of training or a high amount of support, but not both. In other words, training received and support received were perceived to be more negatively then positively correlated. If the seven projects are classified into high, medium and low categories on training and support received, the following distribution occurs, demonstrating this differentiation between perceived training and support.

Amount of Support Received	Amount of Training Received: High	Medium	Low
High		Florida	Network
Medium		NRC	Georgia
Low	Penn. Michigan	NEA	

It is interesting to note that the Network linkers perceived that most of the interaction with the project staff and the host organization was support rather then training, even though much of this interaction occurred during formal project meetings and designated training sessions. On the other hand, Pennsylvania linkers interpreted most of their interaction with project staff as training rather than support. On the surface this linker perception of low amount of support in Pennsylvania contradicts the extensive interaction with project staff that did occur. However, interview data suggests that much of this interaction was targeted towards supporting and assisting site activities rather than linker activities.

The perception of the amount of training and the actual amount of training received were not necessarily the same for each RDU project. The actual number of days of training were computed for each project and the projects were divided into high, medium and low categories, based on this total number of days. When comparing the actual training with perceived training, the following distribution occurs:

Amount of Training Received (Actual)	Amount of Training Received (Perceived)		
	High	Medium	Low
High	Penn.	NRC	Network
Medium		Florida	Georgia
Low	Michigan	NEA	

Some projects, such as Michigan and NEA, received very little formal training in actuality. However, they perceived their training to be quite extensive. On the other hand, the Network project perceived a low amount of training, even though they received a relatively great deal of training in terms of actual days.

It appears that "perceived training" is a relative concept. For linkers who committed a small portion of their time to an RDU project, the five to eight days of training received was perceived as quite substantial (i.e., Michigan and NEA). In contrast, the linkers who devoted most or all of their time to an RDU project perceived the 15 to 20 days of formal training received as less extensive or minimal (i.e., Network and Georgia).

CHAPTER III

ASSESSMENT OF RDU TRAINING AND SUPPORT

In order to better understand the process of training and supporting educational linking agents, an assessment of the training and support activities of the various RDU projects was conducted. This assessment was based upon the perceptions of linking agents (the recipients of the training and support efforts) as well as upon the application of principles of learning that can serve as indicators of training effectiveness. The results of this assessment are presented in this chapter of the report.

One of the major objectives of this presentation is to provide a basis for suggestions on how to improve linker support and training. The assessment described in this chapter is not meant as an evaluation of project effectiveness or of the effectiveness of the RDU program as a whole. For many of the seven projects, training and support of linking agents represented a relatively minor set of activities, or was even an afterthought to what was perceived as the major objective--school improvement through the adoption of R&D products using a problem solving approach. Even this study of linking agents, a sub-study within the larger Abt Associates' study of the RDU program, was not part of NIE's original intent. Thus, the following assessment is not based upon the intent or the implementation fidelity of training and support activities, but rather emphasizes what actually occurred.

The remainder of this chapter describes a framework for assessing training and support and then discusses cross-project findings based on the application of this framework. Finally, a brief summary of the linkers' assessment of each project's training and support is presented.

Framework

The primary source of data for the assessment of linker training is the perception of linking agents. Linkers were asked to assess their training along three dimensions, including the usefulness of training, the timeliness of training and the appropriateness of the amount received. The results of this linker assessment are presented in Table III-1. Linkers perceived that the training was useful "to some extent." And in about 50% of the time, the linkers perceived that the training was timely and in the appropriate amount.

Table III-1

Linker Assessment by Project of Training Received

Project	Average Extent Training Was Useful*	Appropriateness of Timing**			Appropriateness of Amount**		
		% too early	% appro-priate	% too late	% prefer less	% right amount	% prefer more
Northwest Reading Consortium	3.3*	17	40	43	8	40	52
Georgia	3.4	19	25	56	0	25	75
Pennsylvania	4.1	20	60	20	0	60	40
Network Consortium	2.8	23	33	44	23	25	52
NEA	3.1	25	74	1	23	42	35
Florida	3.6	3	57	40	19	77	4
Michigan	3.6	11	47	42	39	30	31
Average for all RDU Linking Agents	3.3	20	51	29	22	46	32

*Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

**The percentage of times linkers rated the training in each of the four content areas (problem solving process, interpersonal or group dynamics, use of the knowledge base and project administration) in each of the appropriateness categories for timing and amount.

In addition to linker perceptions, principles of learning can be applied to training approaches that occurred, forming an "expert" assessment. These principles come from the work of a number of researchers (Campbell et al., 1970; Bass and Vaughan, 1969; Gagne and Rohwer, 1969; Schein, 1965) and represent a means of indicating the effectiveness of training activities in producing behavioral change. These principles include:

- task or skill analysis (the extent to which the desired performance is broken down into basic component parts);
- participation of the learner;
- practice of skill or application of knowledge;
- individual feedback or knowledge of results;
- individual reinforcement; and
- transferability (the extent to which the training situation is like the real world).

Most training research suggests that the more these six principles are a part of a given training approach, the more effective that approach will be at producing skill acquisition and learning.

In order to see to what extent these principles are present in linker training, the various training approaches used in the seven RDU projects were grouped into identifiable categories. The resultant categories, along with a brief description of each, are as follows:

1. One-on-one training

   This approach incorporates many variations (e.g. coach-counseling or serving as an apprentice). One-on-one teaching involves a high degree of flexibility concerning individual differences of the learner and an immediate access to knowledge of results and feedback. These same characteristics are also associated with one-on-one training by peers, where experienced linkers train inexperienced linkers.* The strength of this individualized approach is not so much in being able to demonstrate correct behavior, but rather in being able to recognize correct behavior in the trainee.

2. Role-playing and simulations

   "The role-playing method requires trainees to project themselves into a simulated interpersonal situation and play the parts of the persons and situations assigned to them" (Maier, 1965). Learning occurs due to the feedback available from other participants and the trainer both during and after the role-play and due to the opportunity to practice

*In fact, peer training occurred in only two projects and in a very minor way (in one project, one experienced linker did a lot of cross-age helping of the other linkers, and in one project, towards the end, inexperienced linkers shadowed experienced linkers on a one-on-one basis.)

and improve your behavior. In simulations, the essential characteristics of a situation or activity are created for the trainee to experience. The use of case studies, critical incidents or gaming can also be included as simulation methods. Role-playing and simulations are dynamic, have a high face validity, telescope time and feedback, and are relatively non-punitive. They create the experience of the interdependence of organizational roles and facilitate the practice of relevant skills.

3. Group discussion

   A group discussion is a form of two-way communication, allowing some feedback and participation to occur. The emphasis is on cognitive transfer of knowledge rather than skill acquisition and behavior change.

4. Lecture, and

5. Written information

   These also are techniques that emphasize cognitive transfer of knowledge. When these are heavily used in training situations, usually the assumption is that behavioral skills are simply examples of knowledge application--a weak assumption. With these approaches, there is little opportunity for practice, reinforcement or feedback.

Given these five categories of training approaches, each can now be assessed in terms of the six learning principles. Assuming a simple rating of high, medium and low for the extent to which the approach utilizes each learning principle and providing a numerical score of 3, 2 or 1 for these ratings, an effectiveness score can be obtained for each training approach. This rating and the resultant scores are presented in Table III-2 showing that one-on-one with a trainer is the most effective approach, and lecture is the least effective. These scores were applied to the training that was received in each project as perceived by the linking agents (see Tables A-1 to A-7 in the Appendix). An average score was found for each content area (adding the effectiveness scores together for each of the five training categories with a "yes" and dividing by the number of "yes" responses), and this was multiplied by the score for the amount of training received--resulting in an effectiveness score for each of the content areas. These scores are presented in Table III-3. The "perfect" score would be 80, where training was received to a very great extent, and only the most effective approach (one-on-one training) was used, resulting in a score of 5x16.

Table III-2

Learning Principles Applied to Five Approaches to Training

Learning Principles	One-on-one with the Trainer	Role-playing or Simulations	Group Discussions	Written Guidelines	Lecture
Skill Analysis	Medium	Medium	Medium	Medium	Low
Participation	High	High	Medium	Low	Low
Practice	High	Medium	Low	Low	Low
Individual Feedback	High	High	Medium	Low	Low
Individual Reinforcement	Medium	Medium	Low	Low	Low
Transferability	High	Medium	Low	Low	Low
TOTAL*	16	14	9	7	6

*Scores: High = 3
Medium = 2
Low = 1

Thus, the higher the score, the more effective the training approach.

There are at least three weaknesses with this method for "expert" assessment of linker training. First, it must be remembered that these principles are most applicable to skill acquisition and least applicable to orientation activities where the major emphasis is on the transfer of information. Second, the learning principles are weighted equally, disregarding much evidence suggesting that some principles are more important than others. Finally, this method of assessment does not take into account the issue of cost. For exmple, the lecture approach can be defended as very "effective" for large groups of people on the basis of cost-effectiveness. However, this approach does provide a general indication of the extent to which the training is consistent with accepted principles of learning.

In comparison with training, support activities are more difficult to assess in any formal way. Support for linking agents resides in conditions or aspects of the work environment and, as such, resists measurement and categorization. Compounding the problem is the overlap between training and support. For example, project training meetings often have as their main purpose the provision of support, encouragement and feedback to linkers. And, visits of project staff to the field to support the linkers often result in one-on-one job training and development. Support can be intentionally provided or can emerge as a response to needs. Support can exist at many levels, including from the project saff, from an immediate supervisor, from peers, and even nationally from such organizations as NIE.

Since support is highly dependent upon the level of interaction with various individuals, linker perceptions of the usefulness of these interactions provide the basis for much of this assessment. Linkers rated the usefulness of assistance, in their roles as a process helper and a resource finder/solution giver, obtained from various sources such as the project staff, their host supervisor, and other linkers. These ratings for each project are presented in Table III-4. In addition, linkers rated the extent to which they were satisfied with services from the project staff, as well as the extent to which they were satisfied with the timeliness of those services. Finally, linkers rated their satisfaction with the interaction with the knowledge base or pool of resources. These results are presented in Table III-5.

Table III-3

Assessment by Project for Training in Each Content Area

Project	Content Area				
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration	Average Score
Pennsylvania	42.2*	22.5	34.5	47.7	36.8
Georgia	46.7	44	27.6	21.6	35
Northwest Reading Consortium	26.6	36.8	31.8	34.2	32.4
Network Consortium	31.2	25	36.8	30.4	30.8
Florida	29.7	30	31.7	29.4	30.2
NEA	28.8	35.6	17.4	34.2	29
Michigan	33.3	22.4	21	26.6	25.8

*For each project (using Tables 1 through 7), an average score was found for each content area (adding the effectiveness scores together for each of the five training categories with a "yes" and dividing by the number of "yes" responses), and this was multiplied by the score for the amount of training received, resulting in an effectiveness score for each of the content areas. The "perfect" score would be 80 [training received to a very great extent (5) and all of it using the most effective approach--one-on-one with a trainer (16)].

Table III-4

Perceived Usefulness of Assistance Provided by Various Sources in each by Project

Project	Area of Assistance	Usefulness of Support Provided by:								Average Total For All Sources
		Central Project Staff		Host Agency		Other Linkers		Outside Consultants		
		Avg.	S.D.	Avg.	S.D.	Avg.	S.D.	Avg.	S.D.	
Northwest Reading Consortium	Process Helper	16*	2.9	5.8	5.8	18.2	3.6	13.2	4.9	13.3
	Resource Finder	7*	4.7	4.2	2.6	9	2.9	12.8	1	8.2
Georgia	Process Helper	15.2	2.7	16.5	1.9	18.5	3.4	10.3	4.9	15.1
	Resource Finder	7.4	5.6	9.8	4.6	8.9	2.0	7.0	5.6	8.3
Pennsylvania	Process Helper	19	0	21.0	0	10	0	4	0	13.5
	Resource Finder	15	0	15	0	0	0	0	0	7.5
Network Consortium	Process Helper	19.6	1.9	16.7	3.1	19.7	2.1	11.3	10.6	16.8
	Resource Finder	14.2	1.5	9.8	4.3	7	7.5	10.7	3.8	10.4
NEA	Process Helper	15.8	4.4	14.1	5.0	16.4	4.9	13.6	6.7	15.0
	Resource Finder	8.5	3.9	7.6	4.7	3.5	5	3.5	2.7	5.8
Florida	Process Helper	18.5	2.2	14.1	5.0	16.4	4.9	13.6	6.7	15.6
	Resource Finder	12.7	4.4	12.5	2.7	9.7	5.6	11.2	2.9	11.5
Michigan	Process Helper	14.5	6.1	12.1	6.3	13.5	7.4	5.8	6.7	11.5
	Resource Finder	9.3	4.9	8.7	4.1	3.5	5.9	3.7	4.7	6.3
Average	Process Helper	16.6	4.0	15.2	5.8	15.2	5.8	9.1	6.8	14.0
	Resource Finder	9.8	4.9	9.1	4.5	6.3	5.4	7.1	5.1	8.1

* The sum of the scores (0-30 on the facets of the process helper and resource finder roles representing how frequently the linkers sought advice from each source. Range of possible scores = 0-21 (the higher the score, the more frequent advice was sought).

Table III-5

Assessment of Support: Summary Indicators
Average Response by Project

Support Survey Items	Projects															
	Northwest Reading Consortium		Georgia		Pennsylvania		Network		NEA		Florida		Michigan		TOTAL	
	Avg	S.D.	Avg	S.D.	Avg	S.D.	Avg	S.D.	Avg	S.D.	Avg	S.D.	Avg	S.D.	Avg	S.D.
Satisfaction with OPD services	3.8*	.5	3.8	.8	4	0	3.5	1.3	3.9	.8	4	.8	3.7	.9	3.8	.8
Extent OPD knows my needs	4	.8	3.3	.5	3	1.4	3.5	.6	3.6	.8	3.9	.9	3.6	.9	3.6	.8
OPD assistance timely	3.5	.6	3.7	.5	2.5	.7	3.5	1.3	3.7	1.3	3.7	1	3.6	1.1	3.6	1
Extent satisfied with contacts with the knowledge base	4	.8	3.7	.5	2	1.4	2.7	2.3	3.1	.9	3.9	1.2	2.6	1.1	3.2	1.2

*Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

Using this framework for assessing linker support and training, along with information gathered through interviews with a sample of RDU linking agents, the following cross-project findings emerge.

Cross-Project Findings

On the whole, the training and support provided to RDU linking agents were perceived as somewhat useful and appropriate. In reporting the usefulness of training and support, linkers consistently rated, on average, slightly above the mid-point labeled "to some extent" of a Likert scale. With regard to appropriateness, linkers generally received training in areas that they thought most important. This is illustrated in Table III-6, where the various training content areas are listed along with their rank order according to importance and their rank order according to amount of training received. Aside from information or skills related to the administration of the RDU project, which was ranked as least important but most emphasized in training, the rank order between importance and amount received is directly comparable.

Table III-6

Rank Order of Importance and Amount Received for Various Training Content Areas

	Importance	Amount of Training Received
Information or skills related to:		
• the problem-solving process	1	2
• interpersonal or group dynamics	2	3
• the use and availability of the knowledge base	3	4
• the administration of the RDU project	4	1

Among the various aspects of training and support, there were some areas of relative strength and weakness. These are summarized in the following points.

1. Most RDU projects took the stance of a typical service-oriented project and emphasized getting started as quickly as possible, resulting initially in a low priority on linker training and support. Projects went between 8 and 16 months before providing anything other than basic orientation to their linkers. Yet this initial period was a very important time for linkers, as they needed to quickly clarify roles, define who they were and as they began to get invested in certain directions and emphases.

2. While not apparent in the quantitative data, it was very evident in the interviews that many linkers felt some psychological as well as geographical distance from the central project staff. For example, a project director recalls being frequently accused by linkers of not understanding the real world. He stated: "I can't talk about meetings they have attended, people they have met or conditions they are working under, thus I am put in the position of being an administrator."

In at least three projects, there existed a strong feeling of "we" versus "them" between linkers and other project staff. This feeling is very understandable given the weakness in the timeliness of training and support discussed in the first point. However, another major contributing factor to this "distance" seemed to be that, even though linking agents formed a key part of each RDU project, the projects had relatively little control over them. For example, in all cases linkers were hired or appointed by people other than project staff.

3. Most RDU training, especially during the first year of the programs, was information rather than skill oriented--useful in learning the procedural aspects of a linker's job (reports, access to products, writing problem statements, etc.) but frustrating in terms of learning how to effectively interact with people in school systems. This resulted in some resistance by the linkers to the training provided, and a movement away from standardized training materials towards "responsive," "modularized" and "tailored" approaches. Most projects needed to adapt their training plans due to this linker resistance. It is unclear how much of this resistance was due to the initial inappropriatenes of the training and how much was due to issues resulting from the first and second points discussed previously. In other words, even if the projects had begun with very responsive training, would the linkers still need to go through the process of resistance and adaptation, making the training "their own"?

4. A number of interesting findings can be stated about the usefulness of RDU linker training. The projects can be divided into high, medium and low groups, depending upon their perceived usefulness of training (see Table III-1). Florida, Pennsylvania and Michigan were all perceived to have relatively more useful training. The Network and NEA were perceived to have less useful training, with Georgia and the NRC in between. Within the various content areas, training concerning the problem solving process was perceived as most useful, and training about the use and availability of the knowledge base was least useful.

Also, if the effectiveness scores for training, as determined by the application of basic learning principles, are used to divide the projects into a high, medium and low group, it is interesting to note the little similarity between effectiveness and usefulness ratings (see Table III-3). Interview data suggest that the perception of training usefulness is more dependent upon meeting linker expectations than upon training techniques that utilize basic learning principles.

5. Some interesting findings can also be summarized about the perceived usefulness of support. If the usefulness scores are combined for all sources of support, the support related to the process helper role was perceived as more useful than the support for the resource finder/solution giver role in all but one project (see Table III-4). Even though the absolute scores differed in level between the two roles, the relative standings among the projects is almost identical. Thus, the usefulness scores for the two roles can be added together to obtain a total usefulness score. The projects can be divided into high, medium and low groups, based upon the perceived usefulness of support. Florida, Georgia and the Network linkers perceived their support as most useful; NEA and Michigan perceived their support as least useful; and Pennsylvania and the NRC were in the middle.

6. When the high, medium and low groupings of projects for the usefulness of training and support are compared, no relationship or pattern emerges. In other words, linkers perceive training and support usefulness as distinct and unrelated variables. For example, the provision of highly useful training by a project seems to have little bearing on the usefulness of the support that was provided by that same project.

In the remainder of the chapter, a brief summary of the assessments for each project is presented.

Assessments of Project Training and Support

Northwest Reading Consortium

Training was relatively effective in helping linkers learn about interpersonal and group dynamics and project administration. Training was least effective in learning about the problem solving process--in part because of the lateness of the training (after much of the initial problem solving had been accomplished). On the whole, training was perceived as useful to some extent, with most of it occurring later than when it would have been most relevant. Linkers would have preferred a little more training. After the initial training session (which was "off the shelf" with little perceived adaptation to the project linkers), the training was responsive to the assessed needs of linkers and was received relatively well during the second year of the project.

Concerning their role as a process helper to sites, linkers perceived the support they received from all sources as very useful--especially the help received from other linkers. Concerning the resource finder role, support from outside consultants was clearly the most useful. The linkers felt very satisfied with contacts with the knowledge base consultants. Linkers also felt that the project staff knew their needs to a great extent, because of the amount of both formal and informal communication.

Georgia

The Georgia project used very effective training approaches with respect to the content areas of problem solving and group dynamics (the highest effectiveness scores for the seven projects). Training concerning project administration emphasized the least effective techniques in comparison with the other projects. The usefulness of the training received was rated average in comparison with the other projects. Linkers reported that the training that did occur was too late, and they would have prefered more training than was received.

Georgia linkers perceived the support provided by other linkers to be more useful than that provided by any other source. The support provided by the host agency was also useful for both the process helper and resource finder linker roles. While linkers felt satisfied to a great extent with the knowledge base and with the services provided by the project staff, they also reported less satisfaction with the extent the project staff was aware of linker needs.

Pennsylvania

The training techniques used in this project had the highest effectiveness scores of any project. The weakest content area concerned group dynamics, while all the other content area scores were substantially above average. Linkers perceived training to be useful to a great extent, to be relatively timely in its presentation and to be appropriate in amount.

The linkers report substantial satisfaction with project office services, although a weakness in the support provided was the timeliness of the assistance. The relationship between the linker and the school assistance team (outside consultants) seemed to provide both support and training. This was especially useful during the first year of the project and in the occurence of linker turnover. However, some dependency developed which made it difficult to function without such a strong outside suport the second year.

Network

The Network relied on more effective learning techniques for teaching information about the use of the knowledge base than did any other project. The effectiveness of the approaches used for teaching the other content areas was much lower. The Network linkers reported the lowest average usefulness rating for training of any project. While the timing of the training seemed appropriate, linkers would have preferred somewhat more training overall.

Linkers perceived the support from other linking agents as very helpful concerning process issues. In their role as resource finders, the support provided by the project staff was more useful. Linkers were quite satisfied with services and support provided by the project office staff. However, concerning the knowledge base and the training activities, the linkers were much less satisfied. Much of this dissatisfaction and perceived lack of usefulness concerning training seemed to be caused by unusually high expectations about both what was to be provided and what was needed by linking agents.

National Education Association Project

Training of NEA linking agents was primarily orientation and information sharing in nature, useful to some extent but not effective at skill acquisition or behavioral change. Training was modified during the third

year to include more experiential and diagnostic rather than cognitive and descriptive, and this improved its usefulness. The involvement of experienced Phase I linkers in the training of Phase II linkers was innovative and was received well, making the training that occurred more effective. However, more training was perceived as necessary. The timing of the training was seen as appropriate.

In general, linkers were satisfied to a great extent with services provided by the project staff, although they were less satisfied with support provided by the knowledge base. The usefulness of interaction with other linkers and with consultants was minimal.

Florida

Applying the learning principles from the literature to the training approaches used in Florida results in an average effectiveness score for each of the four training content areas. Of the seven projects, Florida linkers perceived receiving closest to the right amount of training. The training was also perceived as useful and occurred at appropriate times with respect to when it was needed.

Linkers reported that the support received from all sources was very useful, especially concerning their process helper role. As a resource finder, the project and host agency were somewhat more useful than other linkers and outside consultants, but even these lower usefulness scores were above average in comparison with the other projects. Linkers also reported a high degree of satisfaction with support services from the project staff and with respect to contacts with the knowledge base and trainers.

Michigan

The training techniques used in Michigan were the least effective of the seven projects in terms of the designated learning principles. Most of this low assessment is due to the difficulty in using highly effective techniques such as one-on-one training in large groups of trainees. Linkers perceived the training received as useful and relatively appropriate in both timing and amount of occurrence.

The linkers reported that the support received from all sources for both the process helper and resource finder roles was below average in

usefulness. The project office was most useful and outside consultants were least useful. Satisfaction with the project office support was average. Linker satisfaction with their interaction with the knowledge base and with training activities was substantially below average.

CHAPTER IV

THE IMPACT OF LINKER TRAINING AND SUPPORT

Introduction

The purpose of this chapter is to determine whether the differences in the way that linker training and support were delivered had any lasting impacts upon linker outcomes, such as job satisfaction, and organizational outcomes, such as how services were delivered to clients. This investigation of impact will be limited, by necessity, to data that is available from surveys of the linking agents themselves. Ideally we would wish to examine how training and support variables affected the ways in which clients perceived linking agents (an indirect measure of differences in behaviors), and to trace the contribution that training and support variables made to the total impact of linker activities upon the school sites with which they worked. At this juncture, however, these data are unavailable.

In the remainder of this chapter we will present a general model for investigating the impacts of support and training, identify the measures that we have used in the investigation, present the results of our analysis, and discuss briefly some of the conclusions that may be drawn from the results.

A Model for Analyzing Linker Training and Support Impacts

The primary reason for designing training programs and support systems is in order to improve the effectiveness of the ways in which linkers perform their jobs. As stated earlier (Chapter I), training programs in general attempt to have a direct impact upon the knowledge and skills (and therefore presumably the behaviors) that a given individual has. However, it is also assumed that training may affect attitudes, and that job-related attitudes may also affect behaviors and client outcomes.

In developing an analytic model, we wished to distinquish not only between two different types of outcome measures, but also to distinguish between the impacts of support systems, and those of training programs. One might hypothesize, for example, that training programs would be most likely to have a direct effect upon behaviors (through their impact upon skill levels), while support systems might have the greatest effect upon job related attitudes such as satisfaction. That is, many might distinguish

between training and support as representing the instrumental, task related attempts to influence a role occupant, and the affective attempts to tie the role occupant into the organizational social system.

In addition to examining the direct, intended effects of training and support on attitudes and behaviors, we also wish to take into account the ways in which individual characteristics such as age or previous work experiences intervene in the intended relationship. Thus, for example, more experienced individuals may react differently to types of training, or different sources of support than less experienced individuals. The job characteristics of the individual role occupant may also affect this relationship.

The general model which underlies our analysis is presented in visual form in Figure IV-1.

Description of Variables

Outcome variables:

As noted above, our model identifies two types of outcome variables: job related attitudes, and job related behaviors. Each of these was measured through a survey of the RDU linkers.

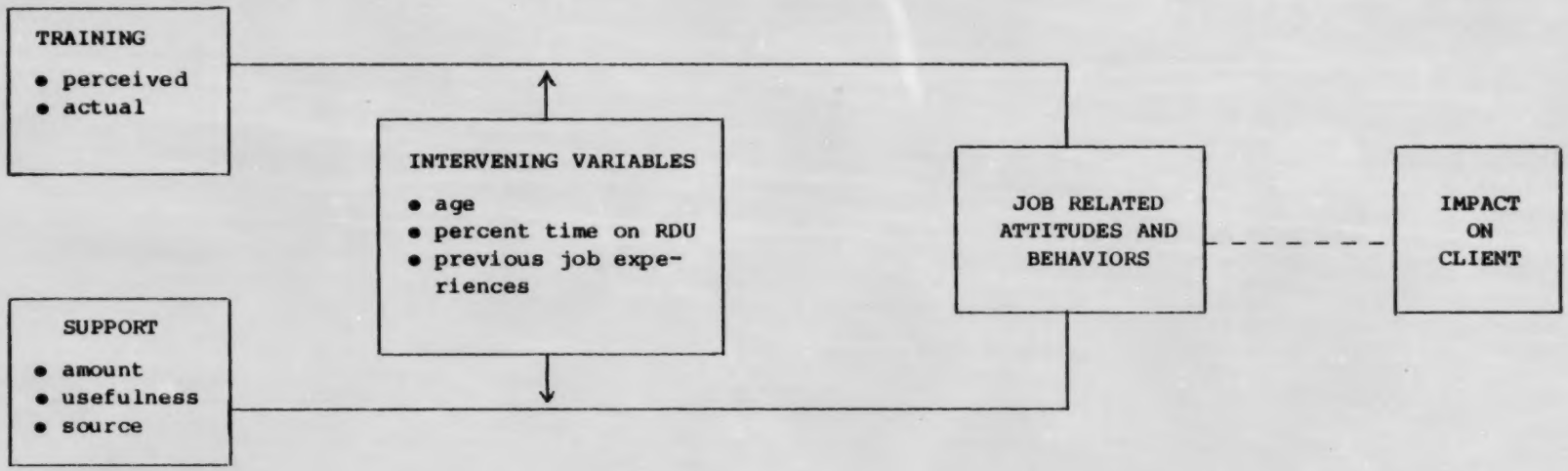
The job related attitude variables used in this analysis are sense of efficacy, overall job satisfaction, and level of role conflict. Job related behaviors included linker perceptions of the degree to which they played the role of process expert, content expert and generalist. Also included were the degree to which they behave in a proactive or involved way, or in a more reactive way.

Sense of efficacy was measured by asking the agent to judge his/her importance to site outcomes in the four phases of the RDU problem solving process: problem identification, solution selection, planning and implementation (See Appendix B, question 9). These measures were combined into a single measure which has a range of 4 to 20, and a mean of 12.78, indicating that the average linker felt himself to be moderately important in the problem solving proces.

Job satisfaction was measured from individual items which asked how well the job provides opportunities to learn and apply skills and gain career mobility, as well as an overall measure of job satisfaction (see Appendix B, questions 21 and 23). Thus, this variable relates specifically to the rewards and opportunities associated with job performance.

Figure IV-1

A MODEL FOR ANALYZING THE IMPACT OF LINKER TRAINING AND SUPPORT



The variable has a range of 4 to 20, and a mean of 14.49, indicating an average satisfaction which is moderate to high.

Role conflict is a variable which measures a potential problem area in any job, but one which may be particularly severe in a marginal service role such as that of a linking agent. An agent encountering a large number of contradictory or ambiguous demands may be unable to fulfill his particular goals. Four questions elicited the agent's perceptions of the amount of conflict in expectations from various role partners and the magnitude of the demands place on him (overload) (see Appendix B, questions 14 through 17). This variable also had a range of 4 to 20, and a mean of 10.20, indicating a low to moderate level of perceived role conflict.

We have previously indicated that a linker's activities can be categorized into three domains (Louis et al, 1979). These are:

Process expertise: This refers to the linker's ability to perform technical assistance functions that are designed to help the local school or site staff better understand their own group dynamics during the change process and to provide technical assistance that will facilitate the development of appropriate attitudes toward change and the knowledge utilization process. Some types of process expert roles measured in the linker survey were conflict resolver, trainer, and evaluator. (See Appendix B, question 10.)

Content expertise: The content expert is one who can provide specific advice that is related to the particular innovation or problem area in question. There are many familiar role models in this area, with one of the most familiar being the subject matter specialist. The linker survey also included two other content expert roles specifically related to the linker role: innovations expert, someone who has a broad understanding of new program developments in education R&D, and implementation specialist, an individual who is able to provide specific assistance in ways to implement new education programs. (See Appendix B, question 10.)

General support skills: Many of the roles which linkers play do not require specific substantive expertise, but can be said to involve either general human relations sensitivity, or the ability to provide extra time, energy, and managerial support to a local school's change activity. Among the generalist activities which linkers may engage in

are observer, documentor, resource person, counselor, and coordinator. (See Appendix B, question 10.). Each of the above variables was scaled to range from 1 through 4. The mean for the process expert role was 3.41, for the content expert role, 2.94 and for the generalist role, 3.68.

The intervention style adopted by the linker constitutes the second domain of linker behavior. The two intervention styles are:

Reactive style: Linkers may respond to requests for assistance from school staff members or to needs or concerns as they become evident. A reactive linker tends to maintain a low profile, and his or her activities may only occasionally be recognized as critical. Reactive linker characteristics utilized in the linker survey include observer, resource person and counselor (Appendix B, question 10).

Proactive style: Linkers may become involved members of the local problem-solving team, offering their opinions about both processes and decisions that are made. Additionally, they may take a role as a "super-ego," analyzing and assessing the progress that the school is making toward whatever goals have been set. Proactive or involved linker roles measured in the survey include process trainer, program implementor and conflict resolver (Appendix B, question 10).

Each of the linker styles was scaled to range from 1 through 5. The average for the reactive role was 3.55, while for the proactive role it was 3.2.

Training and Support (Predictor) Variables: The measurement and definition of training and support variables has been discussed extensively in previous chapters. In this investigation of the model for predicting their effects on attitudes and behavior, we have chosen the following set of variables:

- Training Variables: Measures of training include linker perceptions of amount received, the usefulness of training, satisfaction with the timeliness of training, and satisfaction with the amount of training provided.
- Support Variables: Support variables include linker assessments of the amount and usefulness of support for the process helper and resource finder aspects of their role, from the following sources: project staff, host organization, other linkers and expert consultants. A total of 16 support-related variables were therefore used.

Intervening variables: The linker personal and job characteristics that were chosen as potential moderators of the impact of training and support were:

- The age of the linker. Age was divided into four categories which included approximately equal numbers of linkers: under 34, 34 through 37, 38 through 47, and over 47. The mean age of linkers was 42.
- The percentage of time devoted to the RDU linking role. This variable was divided into three equal groups: 12 percent or less, 13 to 50 percent, and over 50 percent. The average percent time devoted to RDU was 44 percent.
- Previous teaching experience: This variable was divided into three approximately equal groups: 2 years or less, 3 to 5 years, 6 to 8 years, and 9 or more years. The mean number of years teaching experience was 7.4.

Analysis

The correlations between training variables, and the outcomes of job related attitudes and behavior indicate that easily measurable training effects are both sparse and counter-intuitive (see Table IV-1). First, there are no significant relationships between any of the behavior measures and the training variables. A null finding was sufficiently surprising that we were led to investigate this issue further, by determining whether there was a relationship between linker's assessment of their own skills, and training variables (see Appendix B, question 5). None of these additional variables revealed a positive correlation with any of the training variables.

Turning to measures of attitudes, we find that increased training is significantly negatively related to role conflict ($r=-.46$). In particular, less conflict is experienced by those with more training in project administration ($F = 2.58$, significant at the .07 level), and more training in role clarification ($F = 2.75$, significant at the .05 level). The increased training provided the linking agents with a clearer definition of their own roles and with techniques for dealing with various roles. Thus, the main positive attribute of training was to reduce ambiguities surrounding the role rather than to improve role performance.

A less predictable finding, however, is the negative correlation (-.50) between usefulness of training and linker sense of efficacy (influence over site outcomes).

TABLE IV-1

PEARSON'S CORRELATIONS BETWEEN VARIOUS LINKER TRAINING VARIABLES AND JOB ATTITUDES AND BEHAVIOR VARIABLES

Training Variables	Attitudes			Behavior				
	Efficacy	Job Satis-faction	Role Conflict	Content Special.	Process Special.	General	Proact.	React.
Perceived Amount Received	-.31	-.08	-.46*	-.14	.00	-.20	-.18	-.04
Perceived Usefulness	-.50*	-.14	-.21	-.08	.02	-.10	-.08	-.02
Perceived Timliness	-.09	.19	-.21	.13	.02	.19	.26	.06
Perceived Adequacy of Amount	.16	-.15	-.04	-.09	.16	.01	.07	.07

*Significant at the .01 level.

We would interpret this as an example of how formal training tends to be selectively effective: linkers who had a high sense of efficacy may have been less impressed by the relatively simple training tools and experiences that were provided to them late in their project related career. Linkers who felt less sure of what they were doing were more grateful for the information and clarification that were derived through training sessions.

Turning to the relationships between linker support variables and attitude and behavior outcomes we find a similarly limited set of interpretable findings. Of a possible 112 correlations exhibited in Table IV-2, only 19 are significant at the .05 level or better. This indicates that support variables have, at best, a modest impact upon our outcomes measures. Consistant patterns do emerge, however.

First, an emphasis upon the content specialist role appears to be associated with greater support from consultants, and from high perceived usefulness of this support. It is irrelevant whether this support is provided in the context of the linkers process helper, or resource finder roles: external experts have a consistant impact in this regard.

Second, support from linkers, at least where that support is perceived as useful, shows strong relationships with the adopting of process specialist and generalist functions, and also with somewhat greater emphasis on supportive, reactive roles, rather than proactive roles. Thus, where linkers have networks of their own, they become more likely to take on the unobtrusive behaviors that are associated with many definitions of the "ideal" facilitator.

Overall, it is clear that support variables are more strongly associated with behaviors than with job related attitudes. Among the findings related to attitudes, only four significant correlations are found. Amount of support from project staff--both support for the process and information giving aspects of the role--apparently reduces role conflict. This, presumably, is a consequence of making decisions or providing feedback on how linkers should handle instances of such conflict, or by establishing general procedures for conflict resolution. In addition, it is clear that higher levels of support from the host organization related to the process or facilitator component of the linker role is associated with lower levels

Table IV-2

PEARSON CORRELATIONS BETWEEN VARIOUS LINKER SUPPORT VARIABLES AND JOB ATTITUDE AND BEHAVIOR VARIABLES
[N = c.30]**

Linker Support	Efficacy	Satisfaction	Role Conflict	Content Specialist	Process Specialist	Generalist	Proactive	Reactive
Amount Source/Type								
Project staff/process role	-.26	-.20	-.33*	.07	.03	-.08	.04	-.08
Project staff/information role	-.08	-.15	-.34*	.17	-.10	-.16	-.13	-.08
Host organization staff/process role	-.32*	-.25	-.02	.01	-.00	.01	.05	-.04
Host organization staff/information role	-.27	-.16	-.01	-.08	-.04	-.01	-.00	-.06
Other linkers/process role	.17	.05	.06	-.06	.20	.29	.19	.32*
Other linkers/information role	-.09	.03	-.00	-.07	.30	.27	.30	.26
Consultants/process role	-.06	-.03	.07	.38*	-.01	.04	.06	.05
Consultants/information role	-.05	.11	.07	.40*	.18	.29	.25	.30
Usefulness								
Project staff/process role	-.12	.21	.24	-.10	.30	.35*	.28	.36*
Project staff/information role	-.12	-.06	-.30	.16	.11	.05	.13	.07
Host organization staff/process role	-.43**	-.22	-.05	-.08	-.10	.08	-.02	.06
Host organization staff/information role	-.30	-.10	-.02	-.06	-.07	.09	-.01	.05
Other linkers/process role	-.19	.16	.09	.02	.39*	.42**	.36*	.46**
Other linkers/information role	-.16	.11	.01	-.04	.24	.32*	.27	.33*
Consultants/process role	-.21	.01	.06	.44**	-.07	.05	.03	.08
Consultants/information role	-.12	.18	.06	.37*	.17	.38*	.29	.46

*Significant at the .05 level or better.
**N varies from 31 to 35, depending on the support variable.

of efficacy. The reasons for this finding are unclear, but we may hypothesize that linkers who are firmly attached to the host organization and make many requests for local support may be those who are relatively insecure in their roles. Thus, we would assume a reverse causality: rather than support causing a low sense of efficacy, we hypothesize that a low sense of efficacy causes the linker to seek local support frequently, and to rely upon it as useful.

In addition to analyzing the simple correlations between predictor and outcome variables, we sought to engage in analyses that would show the degree to which support and training variables could predict outcomes. The analysis was designed as a two-stage procedure. First, we would conduct a canonical correlation between four pairs of variables: support and attitudes, support and behavior, training and attitudes and training and behavior. Only if we were able to locate a sigificant canonical correlation would we move to a multiple regression model, which would help to identify which of the predictor variables was most highly associated with the outcome variables. This two step strategy was chosen in order to maximize a search for the effects of training and support, since it was clear from the examination of simple correlations that the range and type of effects were low.

A canonical analysis tries to estimate an optimal correlation between two sets of variables. This simply means that each set of variables will be scored in such a way as to produce the highest possible correlation between the two resulting totals. Thus, this approach--rather than a more traditional regression model--represented our best attempt at finding a predictive relationship.

The results, however, showed that there were no strong relationships between training, support, role and outcome variables. Of the four canonical correlations, none resulted in a correlation that was significant at the .05 level. As a consequence, the multiple regressions were not conducted.

The effects of moderating variables: The approach to investigating the effects of age, teaching experience and percent time commitment to RDU involved examining the relationship between outcomes and training and support at different levels of each nominally coded moderating variable. These levels were specified above in the discussion of variable measurement.

Again, the results of these correlational procedures produced relatively sparse results. The significant findings, (including trends as well as individually significant correlations) will be discussed below.

Age. Training and support had the strongest effects on the youngest linkers (those under 33) and the next strongest effects on the oldest linkers (over 48). There were almost no significant correlations between support and training and linker attitudes and behaviors among those linkers who might be considered "middle aged." However, the ways in which training and support are associated with outcomes varies between the different age groups.

The youngest linkers were most likely to show negative correlations between levels of support from project and host organization staff--their formal supervisors--and their sense of efficacy. Level of process support from the project is correlated with sense of efficacy at .77, and information support at -.69. The correlations for process support from the host organization are -.78, and for information support, -.69. Ratings of the usefulness of support from these two sources receive similarly high correlations. In addition, higher levels of support from consultants were associated with higher levels of role conflict. Process support correlation coefficient was .73, and for information support was -.93. Again, assessments of the usefulness of consultant support are also significant (-.75) for process support, and for information support (-.85). Finally, the more useful the linkers rated their training experiences, the less likely they were to feel a strong sense of efficacy in relating to their target sites (-.74).

The oldest linkers (those over 48) also showed strong negative correlations between the level of support from the project for their information providing role and sense of efficacy (-.81). In addition, the usefulness of support from their host organizations was negatively correlated with efficacy (-.94 and -.73 for the usefulness of process and information support from the host organization).

In addition, however, support from linking agents for the information providing role was negatively correlated with sense of efficacy (-.81) as was the perceived usefulness of this support (-.82).

For this group, support from consultants had major impacts. The more consultant support for the information role that was received, and the more

useful it was perceived to be, (r = .90), the more likely the linker was to behave as a generalist (r = .90 and .86). In addition, these consultant support variables were also positively associated with taking a more reactive linking role (.84 and .83). Finally, the same variables were also associated with higher job satisfaction (.77 and .76).

To summarize, it appears that younger and older linkers were more strongly affected by the support that they received from various sources than linkers who were at a mid-point in their career. We may hypothesize that the reason for this finding is that both older and younger linkers are more open to influence: younger linkers because they realize that they are inexperienced and require support in order to do their job well, and older linkers because a change in job status may be more disruptive for someone who has been engaged in more traditional educational roles for a longer period of time.

In addition, we find that there are a surprising number of unexpected negative relationships that emerge. Support variables, in particular, tend to be associated with lower sense of efficacy in dealing with schools. As was mentioned above, this suggests that individuals with lower sense of efficacy seek out larger amounts of support and are more grateful for it. Why this relationship should occur only for younger and older agents is difficult to interpret.

Experience: A number of contrasts between more and less experienced teachers emerged. In the case of inexperienced teachers (less than three years of experience), the amount of training received was negatively associated with job satisfaction (-.72). Among moderately experienced teachers (three to five years) training was positively associated with job satisfaction (.77). The job satisfaction of more experienced teachers (over five years) was not associated with amount of training.

In another contrast, the more support most experienced linkers received from other linkers, the more likely they were to rate themselves as taking proactive, involved roles with regard to clients (r = .80 for process support and .70 for information support). Among the least experienced linkers, on the other hand, high levels of support from other linkers were associated with more emphasis on the reactive, facilitative stance with clients (r = .95 for process support, and .64 for information support). Finally,

among younger linkers, high levels of contact with consultants on both process and information matters were associated with higher levels of role conflict (r = .62 and .85). These relationships were insignificantly negative for more experienced teachers.

Percent time on RDU: The investigation of the effects of percent of time committed to RDU on the relationships between training and support and outcome variables produced few results. Overall, only scattered significant relationships were found for linkers who had more time committed to RDU. Those who committed the least amount of time (5 to 12 percent) were more likely to be affected by differences in the support structure. In particular, those who had more support from other linkers were:

- more likely to have low role conflict (r = .73 for information support);
- less likely to play the role of a content specialist (r = -.73 for process support and -.80 for information support); and
- less likely to take involved or proactive stances with regard to client decision-making (r = -.79 for information support).

Among those committing between 12 and 50 percent time to RDU, very limited significant relationships emerged. First, perceived usefulness of training was significantly correlated with playing a content specialist role (r = .82). Second, process support from the linker's host organization was negatively related to job satisfaction (-.87).

Among those who are committed to RDU for the most extensive periods of time, training and support factors seem to have almost no impact. The only significant relationship is a negative one between the perceived usefulness of training and sense of efficacy (-.69).

Discussion

Two major conclusions may be drawn from the results presented above:

- neither training nor support appear to be major factors in determining how linkers perceived their jobs, or how they describe their behavior and strategies of intervening with clients; and
- the findings suggest that, insofar as training and support structures have an impact, this is moderated by individual background characteristics, and the characteristics of the job.

The more general implications of these findings must be viewed in light of the other data that has been presented in this report, and will therefore be discussed in the next chapter. At this juncture, however, we may tentatively hypothesize that the types of training and support systems that were employed in the RDU project were not sufficiently robust or intrusive to counter the basic autonomy of the linking agent. Earlier we reported that linking agents tended to be most highly influenced by clients (Spencer and Louis, 1978). In addition, we believe that predispositions and convictions, as well as previous experiences brought to the job, may also have a great influence over the occupant of a client-focused service delivery role such as that of the linker.

The results clearly suggest, however, that the support systems designed by the projects and developed by the individual linking agents on their own were more significant in shaping attitudes and behaviors than the formal training events sponsored by the project. One of the significant differences between the support and the training that occurred in the RDU projects was the source of initiation--training was initiated by project staff members and in most cases the support system tended to function upon requests by the linker. Thus, support may be thought of as being more situation- and linker-specific, and usually deals with immediate problems and problem solutions. The greater significance of support over training has considerable implications for the design of successful linkage systems in the future.

The need for individualized approaches is highlighted by the fact that linkers with different backgrounds were affected by levels and sources of support in different ways. While the quantitative data that we have do not suggest clear patterns for the design of a contingency theory of training and support needs, they do suggest the clear need for such an approach.

CHAPTER V

IMPROVING THE TRAINING AND SUPPORT OF EXTERNAL RESOURCE PEOPLE

This report describes and assesses the efforts of seven different organizations to provide training and support to over fifty linking agents -- and thus provides a unique opportunity to suggest ways of improving such efforts in the future. This concluding chapter presents recommendations with respect to training, support, and training vs. support.

Training

Despite the decentralization of the training activities in the RDU program, there was surprisingly little variation among the seven projects in terms of the kinds of training that took place, and in the linkers' assessment of that training. In comparing the techniques and settings that were used, no distinct typologies were discernable. Rather the types of training that occurred, as perceived by linkers in the seven projects, fell into a general cluster with a few minor exceptions.

One reason for this lack of variation was the narrow perception on the part of project staff with respect to the available national resources in the area of training for external resource people. The Northwest Regional Education Laboratory's training design and materials for external resource people were a common thread throughout many of the projects. Even where local trainers were used, the basis for the training was often the NWREL materials. These materials generally were received well. Since they were widely known and used by the linkers, however, they failed to provide them with much increase in knowledge or skill.

Another reason for the similarity in training approaches was the fact that project staff among the seven projects had frequent interaction at RDU-sponsored meetings, were recipients of the results of NIE-sponsored conceptual work in the area of linker training and commonly attended many national meetings concerning educational dissemination and utilization. Since many project staff conducted training themselves rather than relying on outside resources, the resultant approaches to linker training tended to have a limited range.

A major suggestion for the improvement of linker training is to expand the types of training approaches and providers that are used in order to take advantage of the many new developments in the training field. Many universities have extension programs or on-campus training seminars that are consistently rated highly by both participants and their sponsoring organizations. Educational linking agents are very similar in role to change agents and human resource consultants in the private sector - which rely heavily on university-based training resources. Other organizations also offer seminars and workshops in areas of importance for linking agents. While there are many such organizations, among the most well-known are the National Training Laboratories, National Society of Training Directors, University Associates, the American Management Association and such private organizations as Harbridge House and McBer, Inc. With linkers rating information or skills related to the problem solving process and interpersonal or group dynamics as their most important training needs, movement towards non-education specific training resources of high quality seems very desirable.

In our survey, linkers identified an ideal training program for various content areas. Their responses demonstrated some differentiation among the setting, techniques and provider that would be best, depending on the type of information or skill to be learned. These results are provided in Table V.1. There were few, if any, surprises in the linkers' responses, with most of the suggestions consistent with commonly held assumptions about training. Project staff members were seen as the most appropriate providers of training in information about project administration and use and availability of the knowledge base. Consultants were viewed as most appropriate for information or skills related to problem solving processes and interpersonal or group dynamics.

Linkers rated each training technique as being most appropriate for a specific content area (although in some cases the differences between ratings were very small). The resultant pairings are as follows:

Content Area	Most Appropriate Training Techniques
Problem solving process	Group Discussions
Interpersonal or group dynamics	Role Playing, Simulations
Use and availability of knowledge base	Lectures, demonstrations,
RDU Project administration	Written Guidelines, Handbooks

Table V-1

Linker Ratings of the Degree to Which Certain Aspects of Training Programs Should be Used to Acquire Information or Skills in an Ideal Training Program

Aspects of Training Programs		Information or Skills Related to:							
		The Problem Solving Process		Interpersonal or Group Dynamics		Use and Availability of the Knowledge Base		Administration of the RDU Project	
		Avg.	S.D.	Avg.	S.D.	Avg.	S.D.	Avg.	S.D.
Setting of Training	Conference or Workshop	3.3*	0.7	3.1	0.7	3.3	0.9	3.3	1.0
	Small Groups Within Larger Conference	3.3	0.8	3.3	0.8	2.9	0.9	2.8	0.8
	One-on-one with Trainer (in person or by phone)	2.5	0.9	2.3	0.8	2.5	0.9	2.5	0.9
	Informal "Get Togethers"	2.2	0.9	2.3	1.0	1.9	0.8	2.1	1.0
Techniques or Materials	Group Discussions	3.2	0.8	3.3	0.7	3.0	0.8	3.0	0.9
	Lectures/Demonstrations	2.5	0.8	2.5	0.9	3.3	0.8	2.9	0.8
	Role Playing, Simulations	3.1	0.9	3.4	0.8	2.0	1.0	1.8	1.0
	Written Guidelines, Handbook, Memoranda, "tool kit," etc.	3.0	0.9	2.4	0.9	3.2	0.8	3.5	0.8
Provider	Project Staff Member	2.9	0.7	2.7	0.8	3.1	0.8	3.7	0.5
	Consultant	3.4	0.8	3.4	0.7	2.8	1.0	1.9	0.9
	Other Linker/Facilitator	3.0	0.8	2.8	0.8	2.7	0.9	2.7	1.0

*Scale: 4 = to a great extent
3 = to some degree
2 = to a small degree
1 = not at all

With respect to the setting of training, the conference or workshop approach was seen as appropriate in an ideal training program for all four content areas, with the use of small groups within the larger conference desirable for learning about the problem solving process and interpersonal or group dynamics. Linkers' low rating of informal "get togethers" and one-on-one training contradicts much current literature concerning effective training (see earlier discussion in Chapter III). Part of this low rating might be due to a confusion between training and support -- a subject that is discussed in the following section.

Support

While project staff members were perceived as the major providers of linker training, linker host organizations were also seen as major providers of support and assistance. This supportive role of the host organization was especially apparent when linkers were previous members of that organization or when RDU meshed with the objectives of the organization. If linkers were not previous employees of their host organization and if the program does not fit with the organization's current focus, then alternative mechanisms for supporting the linker need to be designed. Linkers perceived the support received to be moderately useful, although there was some variance in perception because of the multiple sources of potential support.

From interviews with linkers comes the recommendation for more role socialization or whole-role training, occurring through informal processes rather than formal training experiences. Role socialization emphasizes frequent interaction with peers concerning the linking agent role as a whole, rather than piecemeal training activities concerning currently popular skill or knowledge areas. This recommendation is consistent with the findings in Chapter IV which associated interaction and support from peers with more supportive and reactive role behavior on the part of linkers. Indeed, the broader the informal network of associations, the broader the potential role behaviors that are available in the linkers' repertoire. For example, the more association with consultants, the more linkers played a content specialist role. The location of linkers in "host organizations" such as intermediate service agencies, while initially causing some role ambiguity and conflict, facilitated the role socialization process and broadened the range of role behaviors performed by linkers.

Even though the quantitative analysis produced few relationships between support and linker attitudes and behavior, the qualitative data contain many examples of the importance of support, and the dissatisfaction of linkers when support was not available. One of the biggest areas of dissatisfaction was the lack of feedback to linkers, especially from the project or host organizations. This was especially frustrating because of the heavy documentation efforts that were an integral part of the RDU program -- and from which linkers felt they received little benefit. Even for temporary programs with definite end-dates, feedback to linkers is needed and should be structured into the linker support systems.

One of the biggest areas of satisfaction concerning linker support came from peer interaction. Linkers shared experiences whenever they had an opportunity, using the phone for almost weekly exchanges of information and seeking of assistance. Much of this peer support emerged spontaneously at the initiative of the linkers. In the future, this important support process should be facilitated through adequate resources for phone calls, for periodic group meetings, and for on-site visitations among individual linkers.

Training vs. Support

A basic question concerning training and support for any program is the relative emphasis between the two. In the seven RDU projects, the amount or level of training and support did not seem to be related. A project could emphasize both training and support, emphasize neither or emphasize one to the exclusion of the other. Typically this latter was the case, and it can easily be hypothesized in this day of tight resources that design decisions frequently will be made to emphasize only certain aspects of program development and maintenance. But which aspects should be emphasized?

Selection of staff is often a process used to reduce the need for training and support. It is important to note that in all seven RDU projects, the project staff had little influence over the selection of linking agents. For the most part, these decisions over linker selection -- a key ingredient to any dissemination and utilization program -- were in the hands of the host organizations, who were minimally involved in the program. In some cases, this occurred despite strong expectations to the contrary held by

project staff. Given the nature of the program, and the importance of local acceptance, this process probably worked to the program's advantage. However, this emphasis on local or regional selection of linkers increases rather than decreases the importance of training and support.

Yet, in the RDU program, training and support were very weakly associated with any positive "intermediate" outcomes such as linker behavior and attitudes. Linkers perceived training and support to be only moderately useful, despite what was perceived by many project staff to be substantial (although belated) emphasis in these areas. It can be argued that the range of training timelines and amount was limited and that greater impact would occur from training if it preceded program implementation and was substantially increased in amount.

There is mixed support for this argument in the training research literature (Gilmore and Deci, 1977; Dunnette and Campbell, 1970; Bass and Vaughn, 1969; Argyris, 1979). Typically, behavioral change is noted following training but the changes did not transfer to on-the-job behavior. And even following substantial training, behavioral change, while statistically significant, is often minimal (Oshry and Harrison, 1966). Thus, while the impact of training probably can be increased through more timely and substantial training efforts, this would be an expensive use of resources and it is questionable that the resultant impact would be any greater than an "on-the-job training program" utilizing an effective support system. In fact, Katz and Kahn (1979) would maintain that only through a broad support system of interacting "bond holders" (people to whom linkers are directly connected by virtue of their role set) can the complimentary changes in behavior take place to insure the continuation of new behavior on the part of any one role member.

In conclusion, greatly increasing the amount of training received by linking agents is one potential approach to influencing linker behavior, especially if the providers of training can be expanded to include many university-based and private-sector resources. However, the efficacy of such an approach is questionable, and the expense required would be substantial. An alternative approach, suggested for the most part by linkers themselves in interviews and conferences, is the provision of resources to encourage and maintain opportunities for linking agents to interact with each other and with a broad range of other potential resources such as those found in local universities, district and state offices of education, educational labs and centers and national conferences on the dissemination and utilization of knowledge and new practices.

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APPENDIX A

THE TRAINING AND SUPPORT OF EDUCATIONAL LINKING AGENTS

Table A-1

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Northwest Reading Consortium Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration
Amount of Training	2.8**	3.2	3	3.8
Setting of Training:				
Conference or Workshop	yes***	yes	yes	yes
Small Groups	no	mixed	no	no
One-on-one with Trainer	yes	yes	yes	mixed
Informal "Get Togethers"	no	no	no	mixed
Techniques or Materials:				
Group Discussions	yes	yes	yes	yes
Lectures/Demonstrations	yes	no	mixed	mixed
Role Playing, Simulations	no	yes	no	no
Written Guidelines, Handbooks	yes	yes	yes	mixed
Provider:				
Project Staff Member	no	no	yes	yes
Consultant	yes	yes	no	no
Other Linker	no	no	no	no

*N = 4

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-2

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Georgia Project Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administratio
Amount of Training	3.8**	4.4	2.4	2.7
Setting of Training:				
Conference or Workshop	yes***	yes	yes	yes
Small Groups	yes	yes	no	mixed
One-on-one with Trainer	yes	no	yes	mixed
Informal "Get Togethers"	no	no	no	no
Techniques or Materials:				
Group Discussions	no	yes	no	yes
Lectures/Demonstrations	no	no	no	no
Role Playing, Simulations	yes	yes	no	no
Written Guidelines, Handbooks	yes	yes	yes	yes
Provider:				
Project Staff Member	yes	yes	yes	yes
Consultant	yes	no	no	mixed
Other Linker	no	no	no	yes

*N = 5

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-3

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Pennsylvania Project Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration
Amount of Training	4**	3	3	4.5
Setting of Training:				
Conference or Workshop	mixed***	yes	mixed	mixed
Small Groups	no	no	no	no
One-on-one with Trainer	yes	mixed	yes	yes
Informal "Get Togethers"	no	no	no	no
Techniques or Materials:				
Group Discussions	yes	yes	mixed	yes
Lectures/Demonstrations	mixed	yes	mixed	mixed
Role Playing, Simulations	no	mixed	no	no
Written Guidelines, Handbooks	yes	no	yes	yes
Provider:				
Project Staff Member	yes	mixed	yes	yes
Consultant	mixed	yes	no	no
Other Linker	no	no	mixed	no

*N = 2

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-4

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Network Consortium Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administrati
Amount of Training	3**	2.5	3.2	3.2
Setting of Training:				
Conference or Workshop	yes***	yes	yes	yes
Small Groups	yes	yes	mixed	yes
One-on-one with Trainer	yes	mixed	yes	yes
Informal "Get Togethers"	no	no	no	no
Techniques or Materials:				
Group Discussions	yes	yes	mixed	yes
Lectures/Demonstrations	yes	no	mixed	yes
Role Playing, Simulations	yes	yes	no	no
Written Guidelines, Handbooks	yes	yes	yes	yes
Provider:				
Project Staff Member	yes	yes	yes	yes
Consultant	yes	yes	mixed	no
Other Linker	yes	yes	mixed	no

*N = 4

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-5

Summary of the Amount, Setting, Techniques and Provider of Training Received by the NEA Project Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration
Amount of Training	3.6**	3.1	2.9	3.8
Setting of Training:				
Conference or Workshop	no***	yes	yes	yes
Small Groups	yes	yes	no	no
One-on-one with Trainer	no	no	no	mixed
Informal "Get Togethers"	no	no	no	no
Techniques or Materials:				
Group Discussions	yes	yes	no	yes
Lectures/Demonstrations	mixed	no	yes	no
Role Playing, Simulations	mixed	yes	no	no
Written Guidelines, Handbooks	yes	no	mixed	mixed
Provider:				
Project Staff Member	yes	yes	yes	yes
Consultant	yes	yes	no	no
Other Linker	no	no	no	no

*N = 10

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-6

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Florida Project Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration
Amount of Training	3.3**	3	3.3	3.1
Setting of Training:				
Conference or Workshop	yes***	yes	yes	yes
Small Groups	yes	mixed	mixed	no
One-on-one with Trainer	mixed	no	yes	yes
Informal "Get Togethers"	yes	no	yes	yes
Techniques or Materials:				
Group Discussions	yes	yes	mixed	yes
Lectures/Demonstrations	yes	mixed	yes	yes
Role Playing, Simulations	yes	yes	no	no
Written Guidelines, Handbooks	yes	yes	yes	yes
Provider:				
Project Staff Member	yes	yes	yes	yes
Consultant	yes	yes	yes	mixed
Other Linker	mixed	mixed	mixed	mixed

*N = 6

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

Table A-7

Summary of the Amount, Setting, Techniques and Provider of Training Received by the Michigan Project Linking Agents*

Aspects of Training	Content Area of Training-Information or Skills Related to:			
	Problem Solving Process	Interpersonal or Group Dynamics	Use of the Knowledge Base	Project Administration
Amount of Training	3.7**	3.2	3	4.1
Setting of Training:				
Conference or Workshop	yes***	yes	yes	yes
Small Groups	yes	mixed	mixed	mixed
One-on-one with Trainer	no	no	no	no
Informal "Get Togethers"	no	no	no	no
Techniques or Materials:				
Group Discussions	mixed	mixed	mixed	no
Lectures/Demonstrations	yes	mixed	mixed	yes
Role Playing, Simulations	yes	mixed	mixed	no
Written Guidelines, Handbooks	yes	yes	yes	yes
Provider:				
Project Staff Member	yes	mixed	yes	yes
Consultant	yes	yes	mixed	no
Other Linker	no	mixed	mixed	mixed

*N = 9

**Scale: 5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

***Coded as Follows: yes = this setting, technique or provider was used for this content area
no = this setting, technique or provider was not used for this content area
mixed = the respondents had differing perceptions concerning this aspect

APPENDIX B

Survey Items for Measuring:

#5	Assessment of own skills
#10	Linker role behavior, based on extent linker actually performs each role
#9	Linker efficacy
#14-17	Role conflict
#21, 22 & 24	Job satisfaction

5. There are a variety of potential skills required for an effective linker/facilitator role. In your opinion, what are your own strengths and weaknesses in the following skill areas?

Skill Areas		Very Weak			Adequate			Very Strong
		(Circle one number on each line.)						
Your Own Behavior	a. High tolerance for ambiguity	1	2	3	4	5	6	7
	b. Openness	1	2	3	4	5	6	7
	c. Ability to live a low profile; little need to be visible	1	2	3	4	5	6	7
	d. Ability to organize myself and others	1	2	3	4	5	6	7
	e. Ability to write at appropriate level (memos, letters, meeting notes, formal documents)	1	2	3	4	5	6	7
Interpersonal Behavior	f. Listening and understanding	1	2	3	4	5	6	7
	g. Counseling	1	2	3	4	5	6	7
	h. Oral communication	1	2	3	4	5	6	7
	i. Interviewing	1	2	3	4	5	6	7
	j. Influencing through supportive reinforcement	1	2	3	4	5	6	7
	k. Influencing through confrontative and advocative methods	1	2	3	4	5	6	7
Small Group Skills	l. Goal setting	1	2	3	4	5	6	7
	m. Group team building	1	2	3	4	5	6	7
	n. Group problem solving	1	2	3	4	5	6	7
	o. Conflict resolution	1	2	3	4	5	6	7
	p. Process helping	1	2	3	4	5	6	7
Change Skills	q. Gaining acceptance at all levels of the system	1	2	3	4	5	6	7
	r. Effective use of formal and informal power structure	1	2	3	4	5	6	7
	s. Skills in problem identification	1	2	3	4	5	6	7
	t. Skills in solution selection	1	2	3	4	5	6	7
	u. Facilitating implementation	1	2	3	4	5	6	7
	v. Evaluation/follow up	1	2	3	4	5	6	7
Content Skills	w. Skills in content areas (reading, etc.)	1	2	3	4	5	6	7
	x. Skills in curriculum development	1	2	3	4	5	6	7

10. There are many different perceptions of what linking agents/facilitators should do.

    1. In your opinion, to what extent do (a) RDU *central project staff,* (b) staff at the *local sites* with whom you are working, and (c) *you* yourself expect that you should be performing the following roles as a linking agent?
    2. To what extent do you *actually* perform these roles?

Please insert the appropriate response code in each box.

5 = to a very great extent
4 = to a great extent
3 = to some extent
2 = to a little extent
1 = not at all

Potential Linking Agent Roles	1. Extent of Expectations			2. Extent you Actually Perform Role
	(a) RDU Central Project Staff	(b) Local Site Staff	(c) Yourself	
– an observer/historian	☐	☐	☐	☐
– an evaluator	☐	☐	☐	☐
– an expert in assessing the match between innovations and problems	☐	☐	☐	☐
– a resource person	☐	☐	☐	☐
– a process trainer	☐	☐	☐	☐
– a program implementor	☐	☐	☐	☐
– a counselor or hand-holder	☐	☐	☐	☐
– a basic skills, career ed. or inservice specialist	☐	☐	☐	☐
– a conflict resolver	☐	☐	☐	☐
– a coordinator	☐	☐	☐	☐
– other _____	☐	☐	☐	☐

9. To what extent were *you* important to the accomplishments achieved during each of the following activities?							
a. problem identification	5	4	3	2	1	0	?
b. solution selection	5	4	3	2	1	0	?
c. planning for implementation	5	4	3	2	1	0	?
d. implementation	5	4	3	2	1	0	?

Instructions: Please rate your job as a RDU linker/facilitator by circling the appropriate response for each of the following questions:

	To a very great extent	To a great extent	To some extent	To a little extent	Not at all
14. To what extent do people around you have different opinions about *what* you should be doing?	5	4	3	2	1
15. To what extent do people around you have different opinions about *how* you should be doing your job?	5	4	3	2	1
16. To what extent are you *clear* about what people expect you to do on your job?	5	4	3	2	1
17. To what extent are you expected to do more than you are *able* or have time to do?	5	4	3	2	1
18. To what extent do people make demands of you that are outside your job description?	5	4	3	2	1
19. To what extent is progress at the site level dependent upon your own efforts?	5	4	3	2	1
20. To what extent are rewards like pay increases, bonuses and promotions based on how well you do your work?	5	4	3	2	1
21. To what extent does doing your job well give you a feeling of personal satisfaction?	5	4	3	2	1
22. To what extent do you have to go through "red tape" to get things done?	5	4	3	2	1
23. To what extent is each of the following statements about your job as a linker/facilitator true?					
a. I can learn new things, new skills.	5	4	3	2	1
b. It has good chances for getting ahead.	5	4	3	2	1
c. It uses my skills and abilities – lets me do the things I can do best.	5	4	3	2	1
24. On the whole, to what extent are you satisfied with your present job?	5	4	3	2	1